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JOHNSON

**RELATION OF THE PANAMA CANAL
TO THE TRAFFIC AND RATES OF
AMERICAN R.R.**

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THE RELATION OF
THE PANAMA CANAL TO THE
TRAFFIC AND RATES OF
AMERICAN RAIL-
ROADS

By

EMORY R. JOHNSON

Special Commissioner on Panama Traffic and Tolls



PRESENTED BY MR. BRANDEGEE

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In the preparation of this paper, Dr. G. G. Huebner, statistician,
has rendered valuable assistance.

E. R. J.

THE RELATION OF THE PANAMA CANAL TO THE TRAFFIC AND RATES OF AMERICAN RAILROADS.

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INTRODUCTION.

Since the opening of the first railway to the Pacific in 1869, shippers have had the choice of rail and water routes for the transportation of their freight from coast to coast; and in spite of artificial restraints upon the competition of the water routes with the transcontinental railroads, the rates by rail between the two seaboard have been affected by those charged by the carriers by water. The Panama Canal will shorten and improve the intercoastal water route and will greatly increase the influence which the coastwise lines will be able to exert upon the railroad services and rates. The volume of traffic moving coastwise will be greatly enlarged by the canal. Some goods now handled all-rail will move by water or by rail-and-water lines, and there will necessarily follow a modification of rail rates and a readjustment of the relation of the charges of rail and water lines.

What the actual freight rates between the Atlantic and Pacific seaboard will be by rail and water lines after the opening of the Panama Canal, and what shares of the total traffic will move coastwise and by rail, can not be predicted in advance; but, inasmuch as the division of intercoastal traffic between the water and rail carriers and the rates charged by the competing ocean and rail routes may be affected by the tolls charged for the use of the Panama Canal, it is desirable that before fixing the tolls as complete information as it is practicable to secure should be obtained concerning the existing traffic and rates of both the water and the rail lines connecting our two seaboard. Accordingly, it is the purpose of this chapter:

(1) To state the volume and explain the nature of the traffic now carried by water routes between the two seaboard; (2) to present the available information concerning the tonnage and character of the transcontinental railroad traffic; (3) to compare present coast-to-coast rates by rail and water carriers; (4) to explain the rates now prevailing at inland points in the eastern and western sections of the United States on transcontinental traffic that is carried by combined rail-and-ocean routes and to state what the railroads have done to retain and develop the direct all-rail movement of traffic between the eastern and western portions of the United States; (5) to indicate in general terms how the railroads may be expected to adjust rates so as to enable the Middle West to continue to compete successfully

with the Eastern States in the markets and for the trade of the Pacific Coast and Rocky Mountain States; and (6) to summarize the probable effects of the Panama Canal upon transcontinental traffic and rates.

It is well known that only partial information regarding the traffic by rail between the eastern and western sections of the United States is obtainable, but enough facts are known as to the total transcontinental mail tonnage and as to the seaboard and inland origin and destination of that tonnage to give some indication of the probable effects of the Panama Canal upon the traffic and upon the rate policies of the eastern, southern, and transcontinental railroads. It will be possible to present in sufficient detail the traffic and rates of the coast-to-coast carriers by water and to compare the present intercoastal rates by water and rail lines. It will be understood that the conclusions as to the effects which the Panama Canal will have upon the transcontinental traffic and rates of the railroads must be only tentative.

I. ROUTES AND TRAFFIC BY WATER BETWEEN THE ATLANTIC AND PACIFIC SEABOARDS OF THE UNITED STATES.

Shipments between the two seabords of the United States may move by three water routes that compete with the rail lines connecting the two coasts: (1) the all-water route around South America via Cape Horn for sailing vessels and through the Straits of Magellan for steamers; (2) the route by way of Panama with the transfer of traffic by rail across the Isthmus; and (3) the route via the Isthmus of Tehuantepec, across which, from Puerto Mexico, on the Gulf, to Salina Cruz, on the Pacific, freight is handled by a railroad owned by the Mexican Government. Map 1 shows the intercoastal steamship lines and water routes.

Traffic carried by rail lines between the Atlantic and Pacific seabords may move coastwise for a short distance on each seaboard—as from New York to Norfolk, or from Portland to San Francisco—at the beginning or end of the railroad haul across the continent. The only railroad controlling a through route between the Atlantic and Pacific seabords is the Southern Pacific, which operates the Morgan Line of steamers between New York and New Orleans and Galveston. The steamers of the Morgan Line extend the Southern Pacific route from the Gulf termini of the railroad to New York, and thus enable the Southern Pacific to compete both with the other transcontinental railroads and with the intercoastal water routes around South America and across the Isthmuses of Panama and Tehuantepec. This combined rail and water line of the Southern Pacific is called the "Sunset-Gulf route."

1. The oldest route between the two seabords of the United States is the one taken by sailing vessels around Cape Horn. Prior to 1849, however, only an occasional vessel, which was in most instances a whaler, undertook the voyage between the Atlantic and Pacific; but with the discovery of gold at the close of 1848 and for a few years thereafter, there was a very large use of this route. In 1849, 775 vessels cleared from the Atlantic seaboard for San Francisco, and all but 12 of them were sailing vessels. The opening of the Panama railroad early in 1855 caused most of the traffic between the seabords to abandon the long route around South America, but a considerable

number of sailing vessels were annually dispatched between the two seaboards by way of Cape Horn, and a small amount of steam tonnage made use of the Magellan route.

The superiority of steamers over sailing vessels for handling most classes of freight, even for such a long route as that between the two seaboards of the United States around South America, became evident during the nineties, and caused the company which was then operating the principal line of sailing vessels between our two seaboards by way of Cape Horn to sell its sailing vessels and to inaugurate, in 1899, the American-Hawaiian Line of steamers run by way of the Straits of Magellan. Early in 1907 the American-Hawaiian Line shifted to the route via the Isthmus of Tehuantepec, and since that date practically all of the shipping moving between our two seaboards around South America has consisted of chartered sailing vessels and steamers that handle such bulky cargoes as can be economically shipped by that circuitous route. Table I shows the approximate tonnage of freight handled between our two seaboards via Cape Horn and the Straits of Magellan during the six years from 1906 to 1911, inclusive. It will be seen that there was a sudden decline in this tonnage after the withdrawal of the American-Hawaiian Line from the Magellan route, and that the volume of tonnage around South America has fluctuated largely during recent years.

TABLE I.—*Volume of intercoastal water traffic, 1906-1911.*

Years.	Total coastwise traffic of Panama Railroad. ¹				Coastwise traffic of Panama Railroad Steamship Line. ²				Coastwise traffic of Pacific Mail. ³				California-Atlantic Steamship Line (Pacific service). ⁴		California-Atlantic Steamship Line (Atlantic service). ⁵	
	Atlantic to Pacific.		Pacific to Atlantic.		New York to Colon.		Colon to New York.		Atlantic to Pacific.		Pacific to Atlantic.		Atlantic to Pacific.		Pacific to Atlantic.	
	Total.		Total.		Total.		Total.		Total.		Total.		Total.		Total.	
1906.....	25,014	24,937	50,851	50,803	25,866	24,937	50,803	50,803	25,866	24,937	50,803	50,803	25,866	24,937	50,803	50,803
1907.....	26,644	15,265	41,909	42,444	26,859	15,265	42,124	42,444	26,859	15,265	42,124	42,444	26,859	15,265	42,124	42,444
1908.....	23,258	16,769	39,927	38,243	23,511	16,769	38,243	38,243	23,511	16,769	38,243	38,243	23,511	16,769	38,243	38,243
1909.....	38,535	18,738	57,273	57,010	38,822	18,738	57,560	57,010	38,822	18,738	57,560	57,010	38,822	18,738	57,560	57,010
1910.....	46,394	32,482	78,876	76,876	46,394	32,482	78,876	76,876	46,394	32,482	78,876	76,876	46,394	32,482	78,876	76,876
1911.....	96,420	115,568	211,928	172,499	66,922	105,577	172,499	172,499	66,922	105,577	172,499	172,499	66,922	105,577	172,499	172,499
													67,332	67,213	134,545	28,488
																5,487

Years.	California-Atlantic Steamship Line (Atlantic service). ¹ —con.				American-Hawaiian Steamship Line. ²				Tonnage via Cape Horn and Straits of Magellan. ³				Total line traffic (excluding Hawnian sugar). ⁴		Total tramp-vessel traffic. ⁵		Total water traffic (excluding Hawnian sugar). ⁶	
	New Orleans to Colon.		Colon to New Orleans.		New York to Pacific ports.		Pacific ports to New York.		Vessel tonnage (entrances plus clearances). ⁴		Approximate freight carried. ⁵		Atlantic to Pacific.		Pacific to Atlantic.		Total.	
	Total.		Total.		Total.		Total.		Total.		Total.		Total.		Total.		Total.	
1906.....	114,000	114,000	114,000	114,000	114,000	114,000	114,000	114,000	146,000	146,000	146,000	146,000	146,000	146,000	146,000	146,000	271,324	469,027
1907.....	131,000	131,000	131,000	131,000	131,000	131,000	131,000	131,000	146,000	146,000	146,000	146,000	146,000	146,000	146,000	146,000	271,324	469,027
1908.....	131,000	131,000	131,000	131,000	131,000	131,000	131,000	131,000	146,000	146,000	146,000	146,000	146,000	146,000	146,000	146,000	271,324	469,027
1909.....	131,000	131,000	131,000	131,000	131,000	131,000	131,000	131,000	146,000	146,000	146,000	146,000	146,000	146,000	146,000	146,000	271,324	469,027
1910.....	131,000	131,000	131,000	131,000	131,000	131,000	131,000	131,000	146,000	146,000	146,000	146,000	146,000	146,000	146,000	146,000	271,324	469,027
1911.....	1,002	4,041	39,018	286,800	162,500	286,800	162,500	286,800	468,300	468,300	468,300	468,300	468,300	468,300	468,300	468,300	1,104,735	1,104,735

¹ Annual reports of Panama Railroad Co.² Statement of E. A. Drake, vice president Panama Railroad Co.³ Statement of American-Hawaiian Steamship Co.⁴ United States Commerce and Navigation Reports, 1906-1911.⁵ Assuming 14 tons of freight for 1 net vessel ton and dividing by 2, as in the vessel tonnage each ship is counted twice, once as an entrance and once as a clearance.⁶ Traffic of Panama Railroad Steamship Line, Pacific Mail, California-Atlantic, and American-Hawaiian Line.⁷ Total water traffic less total line traffic.⁸ Coastwise Panama Railroad traffic + American-Hawaiian traffic + traffic via Horn and Magellan.

2. The Panama route between our two seaboard was opened for traffic at the close of 1848, at the time of the rush to the California gold fields. With the completion of the railroad from Colon to Panama, early in 1855, most of the traffic between our two seaboard moved by way of Panama; and this continued to be the principal highway for transcontinental traffic until 1869, when the connection of the Missouri River with the Pacific coast by the Union and Central Pacific railroads established the first rail line across the United States. The traffic by way of Panama rapidly fell off after 1869, and, though varying from year to year, remained comparatively small until 1911, when there was a sudden increase in the volume of traffic by water between our two seaboard.

Several causes account for the relative unimportance of the Panama route since 1869. The transcontinental railroads until recently have maintained a relentless competitive warfare against the Panama route. The through rail rates between the Atlantic and Pacific seaboard are lower than the rates for shorter hauls to and from the intermediate points in the Rocky Mountain territory, and until the Government regulation of railroads became effective the railroad companies quoted shippers such rates as were necessary to keep traffic from taking the Panama route. Moreover, the transcontinental railroads were able to restrict the use of the Panama route through their close relations with the Pacific Mail Steamship Co., which has, for most of the time, been the only regular line between the west coast ports of the United States and Panama.

For a period of 20 years ending in 1893, the railroads, through the Transcontinental Association, paid the Pacific Mail Steamship Co. a fixed monthly sum, or rental, for the freight space available in its steamers and thus completely controlled the Pacific Mail as a competitor. From 1900 to the present the Southern Pacific Co. has owned a majority of the stock of the Pacific Mail Steamship Co. The history of the relations of the Pacific Mail to the transcontinental railroads and to the Panama Railroad need not be presented in this account of the traffic and rates by the various routes connecting the two seaboard of the United States.¹ It is sufficient to state that the transcontinental railroads by active competition and by artificial restraint have until recently kept the traffic via the Panama route comparatively small.

The development of traffic via Panama has been hampered not only by the competition and restraint of the transcontinental railroads, but also by two other causes: While the French company was engaged in construction work on the Isthmus, from 1882 to 1889, the use of the Panama Railroad by commercial freight was restricted by

¹ For history of the relations of the Panama Railroad to the Pacific Mail Steamship Co. and for an account of the connection of the Pacific Mail with the transcontinental railroads, the following references may profitably be consulted:

1. Opinion of the Interstate Commerce Commission in Railroad Commission of Nevada *v.* Southern Pacific Co. et al. (June 22, 1911, 21 I. C. C. Reps., 329-334).

2. Statement by Edward A. Drake, vice-president Panama Railroad, to the Committee on Inter-oceanic Canals, United States Senate, Feb. 11, 1910.

3. Report of Joseph L. Bristow, special Panama Railroad Commissioner, to the Secretary of War, June 24, 1905, upon policy to be pursued in management of the Panama Railroad Co. (Government Printing Office.) Also report of Jan. 20, 1908, on the Advisability of the Establishment of a Pacific Steamship Line by the Isthmian Canal Commission (Sen. Doc. No. 409, 62d Cong., 2d Sess.).

4. Statements by R. P. Schwerin, vice president and general manager Pacific Mail Steamship Co., to the Committee on Inter-oceanic Canals, United States Senate, on Senate bill 428, Mar. 10, 1910. Also statement by Mr. Schwerin before same committee on House bill 21969, Mar. 1, 2, and 3, 1912.

5. Statement by William R. Wheeler, representative of San Francisco Chamber of Commerce, to Senate Committee on Inter-oceanic Canals, on House bill 21969, May 27, 1912.

employment of the railroad for the transportation of materials and supplies used in construction work. Likewise, since 1904, the construction of the canal has limited the volume of commercial freight that could be handled across the Isthmus. The other cause that has checked the growth of traffic via Panama has been the competition of the Tehuantepec route, which, since the beginning of 1907, has afforded a shorter and better transportation route than the one by way of Panama for the traffic between the two seaboard of the United States. The volume of traffic handled via Panama between our two seaboard during recent years is shown in Table I. For several years preceding 1910 the tonnage was small and tended to decline.

3. The Tehuantepec route was opened for traffic early in 1907, when the American-Hawaiian Steamship Co. took its steamers off the route via the Strait of Magellan and established regular-line services on the Atlantic between New York and Puerto Mexico, and on the Pacific between Salina Cruz and Hawaii and the west-coast ports of the United States. In 1906 it made an agreement with the Tehuantepec National Railway, which is owned by the Mexican Government, stipulating that the railway company should receive one-third of the through rate. This agreement also included a guaranty on the part of the Tehuantepec National Railway that the net earnings of the steamship company, per ship ton, should not be less than the earnings had been in 1904, when the steamship company was operating by way of the Strait of Magellan. This guaranty, however, did not require the Tehuantepec National Railway to reduce its share of the gross receipts of the steamship company to less than 25 per cent.

The American-Hawaiian Line has been very successful. The fleet of the American-Hawaiian Steamship Co. increased from 3 steamers in 1899 to 9 steamers in 1904, and to 17 in 1911. Five new steamers were ordered in 1911. The rapid growth in the traffic of the company has been made possible by the sugar tonnage from Hawaii to the eastern ports of the United States. The freight shipments westbound between our two seaboard are larger than those eastbound; but the exports of Hawaiian sugar have enabled the American-Hawaiian Steamship Co. to run its steamers loaded in both directions. Indeed, the exports of sugar from Hawaii have been much larger than the American-Hawaiian Co. could handle. The growth in the traffic handled by the American-Hawaiian Steamship Co. between our two seaboard and the tonnage of Hawaiian sugar transported by the company from 1906 to 1911, inclusive, are stated in Table I.

The through route between the two seaboard via the Southern Pacific Railroad from the Pacific coast to Galveston and New Orleans, and from those cities to New York by the Southern Pacific Co.'s steamers (the Morgan Line) was established in 1883. The Sunset-Gulf route immediately began an active warfare against its competitors by rail and by water lines, and secured a large share of the traffic from coast to coast. The transcontinental railroads, other than the Southern Pacific, ran from the Mississippi and Missouri Rivers to the Pacific coast and were primarily interested in the development of traffic between the Middle West and the Pacific coast. The rates by the Sunset-Gulf route from New York to San Francisco were made the same as the rates by the transcontinental lines from St.

Louis and Missouri River crossings to the Pacific. Gradually the rates by the through all-rail lines from the Atlantic to the Pacific were made the same as the rates from Chicago, St. Louis, and Missouri River crossings to the Pacific seaboard. This system of blanket rates was worked out by 1896, and has since prevailed on westbound traffic. The establishment of the same rates by the Sunset-Gulf route and by the all-rail lines between the two seaboard allied the Sunset-Gulf route with the all-rail lines as common competitors against the water routes around South America and via the Isthmuses of Panama and Tehuantepec. The control of the Pacific Mail Steamship Co. by the transcontinental railroads since 1874 and the ownership of the Pacific Mail by the Southern Pacific from 1890 to the present enabled the transcontinental railroads, as has been explained, to keep the traffic by the water routes within small proportions, until a few years ago, when the American-Hawaiian Steamship Co., and later the California-Atlantic, developed a relatively large tonnage coastwise via the Tehuantepec and Panama routes. This development of the coastwise business during the last few years has not been seriously opposed by the railroads, doubtless because of the rapid growth of the rail tonnage consequent upon the industrial progress of the intermountain and Pacific Coast States.

The volume of traffic handled between the Atlantic and Pacific ports of the United States by the several water routes, not including the Sunset-Gulf route, each year from 1906 to 1911, inclusive, is shown in detail in Table I. The total tons of freight, not including Hawaiian sugar, rose from less than 500,000 tons in 1906 to over 800,000 tons in 1911. If the tonnage of Hawaiian sugar be included, the increase during the six years in total traffic was from 560,000 to 1,104,000 cargo tons. The increase during the four years ending in 1911 was steady and rapid. The decline during 1907 and 1908 is to be accounted for mainly by the San Francisco earthquake and fire.

An important feature of Table I is the separation of total traffic into that handled by regular steamship lines and that carried by individual vessels owned or chartered by the shippers. The traffic handled by the regular lines more than trebled during the six-year period, while that carried by individual vessels decreased more than 50 per cent. In 1911, 82.8 per cent of the entire traffic, other than Hawaiian sugar, was carried by the regular lines, whereas in 1906 only 42.1 per cent was shipped by the established steamship lines.

The volume and variety of the traffic between the two seaboard of the United States have so expanded as to render the services of established steamship lines having regular and frequent sailings more economical than the services of individual vessels carrying full cargoes of single commodities. The traffic manager of the American-Hawaiian Line stated to the Interstate Commerce Commission, on January 16, 1907, that "We carry practically everything. In the course of a year, I think we have at least 90 per cent of the articles that may be named in the transcontinental tariffs and a great many articles not on any tariff that are continually offered and carried." The traffic carried by way of the Panama route also includes a large variety of commodities. The west-bound freight tariff of the Panama Railroad Steamship Line requires 25 pages to enumerate the several articles upon which individual rates are quoted. The east-bound

tariff of the California-Atlantic Steamship Co. is a typewritten document of 20 pages.

The freight carried between our two seaboard by way of Panama and Tehuantepec originates and terminates not only at the Atlantic and Pacific ports, but also at interior points. Manifests of the shipments by the American-Hawaiian Line enumerate commodities shipped from eastern New York, eastern Pennsylvania, Massachusetts, New Jersey, Vermont, Connecticut, Rhode Island, Maine; also commodities from Syracuse and Buffalo, N. Y., from numerous cities in Ohio, from certain cities in Michigan, and from Chicago, Milwaukee and St. Louis. These same manifests show that this freight is destined not only to Pacific coast ports, but to inland points, such as Sacramento, Stockton, The Dalles, Oreg.; Spokane and Everett, Wash.; and Reno, Nev.

Most of the bulk cargoes handled in vessels owned or chartered by shippers now move by the disadvantageous routes around Cape Horn or through the Straits of Magellan. The opening of the Panama Canal will make it possible for the individual ship to engage in inter-coastal traffic under much better conditions. It is not probable, however, that the percentage of the total traffic handled by individual vessels will increase in the future. It is more probable that the percentage of the entire business handled by lines will increase. Most of the traffic from our Pacific to Atlantic ports carried in individual vessels owned or chartered by the shipper will necessarily consist of cargoes of grain, lumber, and sugar. The sugar traffic is already large and may be expected to become heavier. The shipments of grain from the west coast, especially from Puget Sound ports, to Europe through the canal will be large, but it is not probable that the grain from the northwestern part of the United States will find very much market at the Atlantic seaboard. That section of the United States will in all probability be supplied from the grain fields of the Middle West. Barley from the Pacific coast States will be required in the Mississippi Valley and Atlantic coast sections of the United States, and may be shipped in vessel cargoes as charter traffic. However, such commodities as wheat, barley, wool, canned salmon, and others of a like character that might advantageously be shipped as full cargoes in chartered vessels will probably be carried east bound mainly by line vessels, because of the fact that the tonnage of traffic west bound is normally heavier than the tonnage east bound. Line vessels will seek these bulk commodities as supplemental cargoes east bound and at low rates. As was stated above, the American-Hawaiian Line has developed a profitable business by securing a heavy east-bound tonnage of Hawaiian sugar. In 1911 the Hawaiian line transported 295,800 tons west bound, but only 162,500 tons, other than sugar, east bound.

The lumber shipments from the Pacific coast through the canal will comprise a large tonnage, but the destination of most of the traffic will be Europe and not the eastern part of the United States, which will continue to be supplied mainly from the forests in the Southern States. The southern pine and hardwood forests constitute the largest lumber-producing district in the United States at the present time. Shipments are made economically and expeditiously, both by all-rail routes to northern markets, and also by rail to southern seaports and thence by coastwise vessels.

Upon the opening of the Panama Canal it is probable that manufacturers and other large shippers will employ their own or chartered vessels for shipments of some heavy commodities to Pacific markets. Undoubtedly there will be a good deal of coal shipped west bound in chartered vessels. Fertilizers, heavy iron and steel, and some other commodities may be sent as bulk cargoes in individual ships from time to time. It is probable, however, that most commodities, other than coal and fertilizers, will be shipped by line steamers.

The fact that most of the traffic through the canal between the two seaboard of the United States will be handled by regular steamship lines and that only a minor, and probably a decreasing, percentage of the total will be transported in individual vessels owned or chartered by shippers should be given careful attention in considering (1) what the policy of the United States should be concerning the prohibition of the use of the canal by vessels controlled by railroads, and (2) concerning the remission or omission of tolls upon vessels engaged in the coastwise business.

1. The policy of denying the use of the canal to vessels owned, or controlled by, or affiliated with, railroad companies is advocated by those who favor the policy mainly for two reasons—(a) that the competition between the railroad-controlled and the independent steamship lines will be disastrous to the independent lines, and (b) that the Government regulation of the rates and services of ocean carriers is impracticable and undesirable. If coastwise traffic through the canal were to be handled mainly by individual vessels owned or chartered by shippers, Government regulation would, indeed, be impracticable; but the service of steamship lines operating over established routes is not essentially different from the transportation service of the railroads. Moreover, when several steamship lines operate over the same route or over competing routes they have fixed schedules of rates established by agreement and their rate policy differs in no marked degree from that of competing railroads.

The rates charged by steamship lines differ fundamentally from charter rates which are highly competitive and fluctuate with the supply of, and demand for, chartered tonnage. Charter rates fluctuate according to business conditions, and could not be and ought not to be subject to Government regulation. The rates of steamship lines, however, are not only made in conferences of the competing lines, but also in many cases are fixed with reference to the rates charged by the railroads with which the steamship lines must compete for traffic. It is thus, at least, doubtful whether it is good public policy not to regulate the rates and services of coastwise steamship lines. Whether such regulation is wise or unwise, it is at least not impracticable.

2. The question of exempting coastwise shipping from the payment of Panama Canal tolls should be decided with reference to the parties that would be benefited by that policy. This subject is discussed in Chapter XIII of this report in considering "The principles that should control in fixing tolls," and need only be referred to in this connection. If the tolls charged coastwise ships using the canal are added to the rate of freight paid by shippers, the remission of tolls will benefit the shippers and possibly, to some extent, the general public. On the other hand, if the freight rates are not any higher because of the tolls,

the exemption of ships from the payment of tolls will not affect the freight rates, and the exemption of the payment of tolls will benefit the steamship company and not the shippers. Charter rates, as has just been stated, are highly competitive, and the rates which a shipper must pay to secure the use of a vessel for a trip through the canal will undoubtedly be increased by the amount of tolls paid. Shippers using vessels which they own or charter will receive the benefit of the exemption of canal tolls. On the other hand, the rates charged by steamship lines, being regulated by agreements among competing companies and being fixed with reference to what the traffic will bear, will presumably be as high as traffic conditions warrant, regardless of canal tolls. If the tolls are charged, the operating expenses of the steamship companies will be increased by the amount of the tolls and their net profits will be lessened by the same amount. In other words, free tolls will be a gratuity or a subsidy to the coastwise steamship lines. The reasons for believing that the rates of the coastwise steamship lines, which will handle from four-fifths to nine-tenths of the traffic between the two seaboard of the United States, will not be affected by the policy of the United States Government as regards free tolls are presented in Chapter XIII, above referred to.

II. VOLUME AND NATURE OF TRANSCONTINENTAL RAILROAD TRAFFIC.

The tonnage of transcontinental railroad traffic can not be accurately stated, because the railways in reporting their traffic do not distinguish between transcontinental and local freight. Estimates made by the traffic officials of the transcontinental lines in 1909 placed the total volume of west-bound transcontinental tonnage moving by rail and water at approximately 3,000,000 tons.¹ The west-bound tonnage of the water lines that year (see Table I) was 313,558 tons. In round numbers, therefore, 2,686,000 tons, or 89.5 per cent, moved westward by rail and 10.5 per cent by water.

The total through and local traffic of the six leading transcontinental railroads² increased 11.2 per cent from 1909 to 1911. That rate of growth would bring the west-bound through transcontinental rail traffic up to about 2,987,000 tons in 1911. The tonnage moved westward coastwise in 1911 was 494,600 tons and the total west-bound transcontinental rail and water tonnage aggregated about 3,481,600 tons. This would indicate that 85.8 per cent of the total volume in 1911 moved by rail and 14.2 per cent by water. The higher percentage of the total rail and water traffic carried by the water lines in 1911 as compared with 1909 is explained by the fact that during 1911 there was a slight decline in rail tonnage and a large gain in the traffic of the coast-to-coast water carriers; the tonnage of the six leading transcontinental railroads decreasing 3.9 per cent and that of all the railroads in the United States 3.7 per cent. The volume of west-bound water traffic, however, was 24.9 per cent in excess of what it was in 1910. During the two-year period 1909-1911 there was a net increase of 11.2 per cent in the total tonnage of the

¹ Railroad Commission of Nevada v. Southern Pacific Co. et al., 21 I. C. C. Reps., 351.

² Northern Pacific; Great Northern; Union Pacific; Chicago, Milwaukee & St. Paul; Southern Pacific; and Atchafalpa, Topeka & Santa Fe.

six leading transcontinental railroads; but the gain during those years in the west-bound tonnage of the coast-to-coast water lines was 57.7 per cent.

The west-bound rail tonnage comprises a wide range of commodities, the manufactures, prepared foodstuffs, and merchandise shipped to the Pacific coast by rail being of great variety. Table IX, between pages 19 and 20, contains a list of the more important commodities, with the freight rates for each article.

Several tabulations have been made to indicate roughly the origin of the west-bound railroad traffic. Table II shows the origin of the shipments to the Pacific coast over one of the transcontinental lines during a period of four months.¹ Only 22 per cent of the through traffic of this line originated in "Atlantic coast and common point territory"; 35 per cent came from points in the East, including Pittsburgh, Buffalo, and common points; 62 per cent originated west of Pittsburgh-Buffalo common points, and 54 per cent was shipped from the Chicago territory and points west of Chicago.

TABLE II.—*Origin of west-bound rail shipments to Pacific coast terminals.*

	L. c. l.	C. l.	Total.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
New York-Boston and common points.....	39	19	22
Pittsburgh-Buffalo and common points.....	8	14	13
Cincinnati-Detroit and common points.....	12	8	8
Chicago and common points.....	16	16	16
Mississippi River and common points.....	9	11	11
Missouri River and common points.....	10	25	23
Southeastern points.....	2	3	3
Colorado points.....	4	4	4
	100	100	100

This agrees substantially with the statement made by Mr. G. W. Luce, assistant to the vice president of the Southern Pacific, before the Interstate Commerce Commission. He stated that not over 20 per cent of the eastern traffic destined to the Pacific terminals originated east of Buffalo and Pittsburgh. Of this 20 per cent he estimated that over half moved by water.

Various compilations were filed by the transcontinental railroads with the Interstate Commerce Commission, at its request, during the hearings of the transcontinental rate cases, for the purpose of showing the origin of transcontinental traffic received at Spokane, Wash., and Reno, Nev. Table III contains an estimate of the west-bound shipments received at Spokane via the Northern Pacific in 1906. The percentage of freight originating at or near the Atlantic seaboard was smaller than was true of the shipments to the Pacific coast terminals. Indeed, only 12.09 per cent originated in "New York-Boston and common points," and but 5.82 per cent in the Pittsburgh-Buffalo district, Four-fifths of the traffic originated west of Pittsburgh and Buffalo and seven-tenths at Chicago and points west of Chicago. The intermountain States of the West receive their supplies mainly from the Mississippi Valley and not from the Atlantic seaboard States.

¹ October, 1906, and January, April, and July, 1910.

TABLE III.—*Estimated tonnage of interstate west-bound transcontinental freight received at Spokane via the Northern Pacific Railway, 1906.*

From—	C. I.	L. c. I.	Total.	Per cent.
	<i>Pounds.</i>	<i>Pounds.</i>		
New York-Boston and common points.....	12,252,504	5,736,954	17,989,458	12.09
Pittsburgh-Buffalo and common points.....	8,001,972	658,788	8,660,760	5.82
Cincinnati-Detroit and common points.....	10,598,274	1,886,370	12,475,644	8.39
Chicago and common points.....	24,717,180	2,776,542	27,493,722	18.48
Mississippi River points.....	10,867,710	1,881,684	12,749,394	8.57
Missouri River points.....	34,230,210	1,903,344	36,133,554	24.29
Colorado points.....	28,880,268	325,723	29,206,002	19.03
Southeastern points.....	3,607,368	437,820	4,045,188	2.73
	133,146,486	15,607,236	148,753,722	100.00

Table IV contains a statement made by the Great Northern Railway of the origin of the west-bound freight delivered at Spokane, Wash., during 1906:

TABLE IV.—*Estimated tonnage of interstate west-bound transcontinental freight received at Spokane via the Great Northern Railway, 1906.*

	C. I.	L. c. I.	Total.	Per cent.
	<i>Pounds.</i>	<i>Pounds.</i>		
New York-Boston and common points.....	6,005,112	3,208,248	9,213,360	14.61
Pittsburgh-Buffalo and common points.....	17,307,306	694,038	18,001,344	28.52
Cincinnati-Detroit and common points.....	5,184,192	596,896	5,781,078	9.16
Chicago and common points.....	13,797,918	1,406,778	15,204,696	24.09
Mississippi River points.....	6,259,806	260,130	6,519,936	10.33
Missouri River points.....	7,748,922	485,736	8,234,658	13.05
Southeastern points.....	145,200	.....	145,200	.24
	56,448,456	6,651,816	63,100,272	100.00

Table V contains a statement of the origin of the west-bound tonnage carried to Reno, Nev., via the Ogden gateway, in 1908. The figures were compiled from the waybills of the Southern Pacific by the Nevada Railroad Commission. Groups B and C comprise the territory east of Chicago. Only 24.48 per cent of the traffic reaching Reno west bound originates east of Chicago.

TABLE V.—*West-bound transcontinental freight received at Reno, Nev., via Ogden gateway (1908), in tons.*

Originating in-group—	C. I.	L. c. I.	Total.	Per cent.
B.....	183	70	253	2.06
C.....	2,030	685	2,715	22.40
D.....	2,207	507	2,714	22.40
E.....	1,970	173	2,143	17.64
F.....	1,891	89	1,980	16.30
G.....	1,666	11	1,677	13.88
H, I, J.....	619	44	663	5.30
Total eastern traffic.....	10,566	1,579	12,145	100.00
Wheat, salt, barley, cement, and coal from Idaho, Utah, and Wyoming.....			11,177	.....
Total traffic.....			23,322	.....

Commissioner Lane¹ of the Interstate Commerce Commission, in discussing the origin of the traffic received from the east at Reno, stated:

Whatever the reason, the fact stands forth throughout this record that the source of supply upon which the far western communities largely draw their manufactures has within half a century moved westward from the Atlantic seaboard, so that, as was found by the Railroad Commission of Nevada from an analysis of the billing of actual shipments into Reno, 75 per cent of their traffic coming from the east originated no farther east than the longitude of Chicago. There are cotton mills as far west as Kansas City; mining, milling, and farming machinery is produced more largely in and about Chicago than in any other section of the country; boots and shoes, hats and clothes, cooking utensils, and the multitudinous articles of domestic use may be secured in large part without coming east of the Alleghenies; in fact, the center of those industries which supply the far West apparently is not far removed from the center of population of the country. This is a pregnant fact. It was announced by the Santa Fe officials, when they opened their through line from Chicago to Los Angeles, that they thought it the part of wisdom to make their rates lower, or as low, from Chicago than from New York, so that the industries of the Middle West might develop. They would make their line independent of their eastern connections in so far as that was possible, and instead of bidding against the shippers of the seaboard for traffic destined to the Pacific coast they would develop industries close to their own eastern terminus, which would supply the western demand, and thereby develop a traffic for the lines west of Chicago, which need not be divided with the carriers east of that city—an exclusive traffic, one which could be carried at rates more compensatory than any that could be had out of the division of a through coast-to-coast rate.

The share of the traffic received at interior points, such as Spokane and Reno, originating east of Chicago, is now perhaps slightly larger than from 1906 to 1908, when the railroads began making blanket rates to these points on certain commodities. However, the interior towns receive a smaller share of their total receipts from the east than do the Pacific coast terminals, because lower rates are generally maintained to the interior intermountain towns from the Central West than from the eastern part of the United States.

In considering the possible effect of the Panama Canal upon the traffic of the transcontinental railroads, it is important to know the destination of the west-bound rail traffic. The following statement was made by the Southern Pacific to the Interstate Commerce Commission to show the destinations of the freight moving westward through the Ogden gateway during the three years 1906-7 to 1908-9.

TABLE VI.—Total traffic moving westward through the Ogden gateway (in tons).²

To—	1906-7	1907-8	1908-9
San Francisco.....	330,195	281,413	238,426
Oakland.....	56,779	46,895	39,828
San Jose.....	17,305	13,200	12,914
Stockton.....	32,037	43,302	26,427
Sacramento.....	59,239	46,563	35,228
Marysville.....	27,216	24,558	19,024
Los Angeles.....	54,747	28,842	24,632
All other points.....	367,311	454,629	412,133
Total.....	944,829	939,442	809,512
All terminals..... per cent..	61.1	51.7	49.9
San Francisco and Sacramento..... do..	41.2	34.9	33.8
San Francisco..... do..	34.9	29.9	29.4
Nonterminal points..... do..	38.9	48.3	50.1

¹ Railroad Commission of Nevada v. Southern Pacific Company et al., 21 I. C. C. Reps., 364.

² I. C. C. Docket 1665, Exhibit No. 29, of traffic bureau of Southern Pacific (Mr. Butler), Oct. 25, 1909.

During the three years included in the statement presented in Table VI, from 49.9 per cent to 61.1 per cent of the west-bound traffic through the Ogden gateway was destined to the various Pacific coast terminals and from 38.9 to 50.1 per cent to nonterminal points.

The foregoing evidence tends to show that only a small portion of the west-bound transcontinental traffic of the railroads is strictly transcontinental in the sense that it moves between the seaboards. The different statements vary, but indicate that but 20 to 22 per cent of this traffic originates east of Pittsburgh and Buffalo, and that but 50 per cent to 55 per cent is destined to Pacific coast terminals.

A general estimate has been made of the east-bound transcontinental traffic. It is apparently about equal to the volume of the west-bound tonnage. A greater volume of freight is shipped out of the Pacific Coast States than is received, but most of the traffic goes to foreign countries and to the Middle West and not to the eastern part of the United States. The heaviest items of the out-bound tonnage—lumber, grain, and oil—are not sold largely in our eastern markets.

The water-borne traffic east bound from our Pacific to our Atlantic ports in 1910 aggregated about 141,600 tons. In 1911, after the California-Atlantic Line had entered the field and the traffic of the Pacific Mail and American-Hawaiian had suddenly increased, the total was about 313,500 tons. According to a reliable estimate, the total east-bound transcontinental traffic in 1910 and in 1911—by coastwise and by rail lines—was 3,000,000 tons per annum, which was the amount of the west-bound tonnage. The railroad share was about 2,858,400 in 1910 and 2,686,500 in 1911. The tonnage of the transcontinental railroads is known to have been somewhat less in 1911 than in 1910. The estimate shows that the railroads carried nearly 95 per cent of the east-bound transcontinental traffic in 1910 and 89.5 per cent in 1911; and that the share of the water carriers was respectively 5 per cent and 10.5 per cent.

The leading commodities transported east bound by the transcontinental railroads are listed in Table X, between pages 19 and 20. Fresh, dried, and preserved fruits and vegetables, fresh, frozen, dried, smoked, salted, and canned fish, fish oil, hides and skins, leather, twine and cordage, wool, barley and malt, wine, earthenware, and spices are among the leading articles shipped to eastern markets. To the Central West these articles and, in addition, a certain amount of sugar is shipped, some sugar also reaching New York via the Sunset-Gulf route. The Central West likewise purchases some Pacific coast lumber, wood products, and barley.

The percentage of traffic moving by water is less in the east-bound than in the west-bound business, chiefly because fresh fruits and vegetables are not at present handled by the water carriers, and because some of the bulky commodities, such as lumber, do not find a ready market east of the Central West.

West-bound water-borne traffic originates throughout a comparatively wide area extending from the Atlantic seaboard to Chicago, but the nature of east-bound water-borne cargoes is such that they are not carried inland in large amounts from the eastern ports of destination. Shipments from the Pacific coast to the Central West are almost entirely by rail.

The east-bound transcontinental railroad traffic has not been classified by destinations, but it may be safely assumed that, as in case of the west-bound business, only the smaller portion is strictly transcontinental. From 20 to 22 per cent of the west-bound tonnage originates east of Buffalo and Pittsburgh, but the percentage of the east-bound tonnage destined to points east of Buffalo and Pittsburgh is probably smaller.

III. TRANSCONTINENTAL RAIL AND WATER RATES.

(A) TRANSCONTINENTAL RAILROAD RATES.

The present rate systems of the transcontinental railroads have been largely influenced by the rates charged by coastwise carriers. An analysis of the present rates from coast to coast charged by the railroads and by the competing water carriers must necessarily precede an intelligent consideration of the probable effects of the Panama Canal upon the traffic and rates of the transcontinental railroads. It will be well to begin this analysis with a brief description of the transcontinental rate structure. In a volume on Railroad Traffic and Rates the main features of the transcontinental rate system are described as follows:¹

1. Blanket or common rates are charged on west-bound transcontinental traffic from most points east of the Missouri River. This is true of both class and commodity tariffs, but as will appear as the discussion proceeds, there are numerous exceptions made to the general policy of blanketing rates from the territory east of the Missouri. Upon some commodities the rates east bound from the Pacific Coast are the same to all places east of the Missouri and on more articles common rates prevail to places east of the Mississippi, but the blanketing of rates is less general upon east-bound than upon west-bound shipments.

2. Upon east-bound traffic, and to a less extent upon that toward the west, graded zone tariffs have been established. The places east of the Rocky Mountains are classified in 10 "rate groups," A to J. Upon the higher classes of freight and upon numerous commodities the rates to all groups are the same, but upon the lower classes and upon most commodities the tariffs vary by rate groups. Class rates west bound are practically identical with those east bound, i. e., graded for classes below the third; and in west-bound commodity tariffs there are numerous instances of grading by groups; but this grading of commodity tariffs west bound is an exception to the more general rule of blanketing rates from points on and east of the Missouri River.

3. The rates west bound to the intermediate points east of the Pacific seaboard terminals are, as a rule, higher than the through tariffs, the higher charges being fixed by the addition to the through rates of either fixed arbitraries or the local rates back from the terminals, as will be explained presently. The rates east bound from the intermediate points are usually higher than from the terminals, although many intermediate town are given the same rates as the terminal cities enjoy.

The 10 rate groups, A to J, referred to are defined in the accompanying map (No. 2). East bound, and to a less extent west bound, the rates from and to the Pacific coast are graded according to these rate groups. The rates on all articles not so graded are blanketed, i. e., they are the same to all points east of the Missouri River on commodities shipped to and from Pacific coast terminals.

The rates to intermediate points, such as Spokane and Reno, are generally higher than to the Pacific coast terminals, and are, for the most part, not blanketed. Recently, however, the rates on some commodities to these interior points have also been blanketed and have in some cases been made equal to the charges granted to the

¹ E. R. Johnson and G. G. Huebner, *Railroad Traffic and Rates*, Vol. I, pp. 459-460.

coast terminals. The system of charging higher rates to the interior towns than to the coast terminals has long been opposed by the intermountain cities, and relief was sought of the Interstate Commerce Commission, which rendered decisions regarding Spokane,¹ Wash., rates in 1910 and 1911, and Reno,² Nev., rates in 1909, 1910, and 1911. The Spokane and Reno decisions, announced June 22, 1911, are especially important in that the commission then attempted to change the system according to which rates to intermediate points are made. Five territorial zones were established by the commission, as shown in map No. 3, and it was ordered that in shipments from zone 1 to intermediate points no higher rate may be made than to coast terminal points, that from zone 2 the rates to intermediate points may not exceed those to the coast terminals by more than 7 per cent, that from zone 3 the rates to intermediate points were not to be more than 15 per cent and from zone 4 not more than 25 per cent above the through rates to the coast terminals. No opinion was expressed as to zone 5, because the rates from that territory were not involved in the proceedings. These orders of the commission have been appealed to the United States Supreme Court for review, but they indicate the attitude of the commission with respect to the extent to which transcontinental railroad charges may properly be allowed to be affected by the competition of the coastwise water lines.

Table VII tabulates the west-bound transcontinental class rates now in effect and shows the extent to which they are blanketed. The various Groups A to J are those defined by map No. 2. Table VIII gives the east-bound class rates. Class rates, however, are of but slight importance in the transcontinental shipments, for but few articles are shipped under the class tariffs.

Commodity rates are quoted, in the transcontinental tariffs, on over 3,000 different articles to the coast terminals, and on a somewhat less number from those terminals. The west-bound commodity rates on selected, leading articles shipped to the Pacific coast terminals are shown in Table IX, and the east-bound commodity rates on articles of similar importance shipped from the Pacific are given in Table X. They are quoted to and from the various rate groups A to J defined in map 2, so as to show the extent to which they are blanketed and graded.

The transcontinental east-bound railroad rates on lumber are fixed in accordance with a different plan than is followed in making other commodity rates, and are published in separate tariff books. Table XI states the lumber rates from the Pacific Coast States to various indicated eastern and central western markets. The terms coast rates, Spokane rates, Montana-Oregon rates, Truckee rates, etc., refer to different lumber-shipping districts. The rates quoted in columns A to F, in the case of the charges from the northwestern area, and in columns 1 and 2 under California rates are the charges on different kinds of lumber products as defined in the footnotes of the table.

¹ City of Spokane et al. v. Northern Pacific Railway Co., 21 I. C. C. Reps., 400-427.

² Railroad Commission of Nevada v. Southern Pacific Co. et al., 21 I. C. C. Reps., 329-384.

TABLE VII.—*West-bound transcontinental railroad class rates.*

[Rates in cents per 100 pounds.]

Classes.	To North Pacific coast terminals from groups—										To California terminals from groups—											
	A	B	C	D	E	F	G	H	I	J	A	B	C	D	E	F	G	H	I	J		
Class I.....	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	
Class II.....	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	
Class III.....	220	220	220	220	220	220	220	220	220	220	200	220	220	220	220	220	220	220	220	220	220	
Class IV.....	190	190	190	190	190	190	190	190	190	190	175	190	190	190	190	190	190	190	190	190	190	
Class V.....					165	165	160	160	160	160	160	165	165	165	165	165	165	165	165	165	160	
Class A.....					160	160	160	160	160	160	140	160	160	160	160	160	160	160	160	160	140	
Class B.....					125	125	125	125	125	125	120	125	125	125	125	125	125	125	125	125	120	
Class C.....					100	100	100	100	100	100	95	100	100	100	100	100	100	100	100	100	95	
Class D.....					100	100	95	95	95	95	85	100	100	100	100	100	100	100	100	100	85	
Class E.....					95	95	85	85	85	85	80	95	95	95	95	95	95	95	95	95	80	
												95	95	95	92	85	78	78	78	78	73	

¹ Upper line—class rates via gateways 10 to 16; lower line—class rates via gateways 1 to 9, and via 17.TABLE VIII.—*East-bound transcontinental railroad class rates.*

[Rates in cents per 100 pounds.]

Classes.	From North Pacific coast terminals to groups—										From California terminals to groups—											
	A	B	C	D	E	F	G	H	I	J	A	B	C	D	E	F	G	H	I	J		
Class 1.....	370	370	370	340	320	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300		
Class 2.....	330	330	330	300	280	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260		
Class 3.....	265	265	265	240	230	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220		
Class 4.....	210	210	210	190	185	180	180	180	180	180	155	190	190	190	190	190	190	190	190	175		
Class 5.....	.....	.....	.....	170	165	160	160	160	160	160	130	.....	.....	.....	165	165	165	165	165	160
Class A.....	.....	.....	.....	175	167	160	160	160	160	140	.....	.....	.....	160	160	160	160	160	160	140
Class B.....	.....	.....	.....	155	148	140	140	140	140	120	.....	.....	.....	125	125	125	125	125	125	120
Class C.....	.....	.....	.....	120	115	110	110	110	110	95	.....	.....	.....	100	100	100	100	100	100	95
Class D.....	.....	.....	.....	105	100	95	95	95	95	85	.....	.....	.....	100	100	100	100	100	100	85
Class E.....	.....	.....	.....	95	90	85	85	85	85	80	.....	.....	.....	95	95	95	95	95	95	80



and water rates.

Railroad			
C.		D.	
C. I.	L. c. I.	C. I.	L. c. I.
125	-----	125	-----
125	-----	125	-----
100	150	100	150
-----	275	-----	275
90	140	90	100
-----	-----	-----	140
100	150	100	150
150	200	150	200
75	140	75	140
110	160	110	160
150	220	150	220
150	-----	150	-----
110	160	110	160
95	150	95	150
160	-----	160	-----
-----	200	-----	200
90	125	90	125
-----	175	-----	175
200	-----	200	-----
80	-----	80	-----
85	-----	85	-----
-----	125	60	100
70	150	70	150
125	175	125	175
140	-----	140	-----
85	150	85	150
85	-----	85	-----
150	-----	150	-----
95	130	95	130
75	110	75	110
75	110	75	110
90	150	90	150
100	150	100	150
-----	175	-----	175
80	130	80	130
120	-----	120	-----
130	-----	130	-----
75	125	75	125
150	175	150	175

ter rail

L.

ter rates.

Railroad rates from California

	C.		D.		E.		L. c.
	L. c. l.	C. l.	L. c. l.	C. l.	L. c. l.	C. l.	
0	220	110	220	110	220	110	:
5	150	85	150	85	150	85	:
0	-----	110	-----	110	-----	110	-----
5	-----	{ 110 115 }	-----	100	-----	100	-----
0	-----	-----	-----	75	-----	75	-----
5	-----	115	-----	115	-----	115	-----
0	-----	{ 120 140 120 125 }	-----	115	-----	115	-----
5	-----	-----	-----	65	-----	65	-----
0	-----	-----	-----	60	-----	60	-----
5	150	75	145	75	135	75	1
0	-----	150	-----	125	-----	125	-----
5	-----	{ 75 85 }	150	85	150	85	1
0	125	85	125	85	125	85	1
5	115	-----	115	-----	115	-----	1
0	-----	130	-----	130	-----	130	-----
5	250	-----	250	-----	250	-----	2
0	-----	70	-----	70	-----	70	-----
5	170	125	170	125	170	125	1
0	145	95	145	95	145	95	1
5	-----	135	-----	135	-----	135	-----
0	100	-----	100	-----	100	-----	1
5	130	-----	130	-----	130	-----	1
0	-----	70	-----	624	-----	624	-----
5	-----	-----	-----	65	-----	65	-----
0	-----	75	-----	70	-----	70	-----
5	200	75	200	75	200	75	2

destinations, regular desiduous fruit rates applying

Albany
Baltimore
New York
Norfolk
Philadelphia
Richmond
Rochester
Syracuse
Utica...
Chicago

¹ Gr
Gro
from ce
blocks (pump)
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Gro
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blocks,
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(B) RATES COAST TO COAST BY WATER.

The water rates between Atlantic and Pacific ports may now be described and compared with the charges by rail. The regular lines operating via the Panama and Tehuantepec routes have tariffs or schedules of rates, and a comparison of water and rail charges may readily be made. In Tables IX and X east-bound and west-bound rates via the Panama and American-Hawaiian Lines are stated side by side with corresponding rail charges on commodities transported both by the railroads and by the water lines. Direct comparison can be made between the water rates given in the table and the rail rates quoted to and from territorial groups "A" and "C," in which the port of New York is located. The relation of all-rail rates to rail-and-water rates to and from interior points is explained below.

The water rates on lumber from the Pacific coast to New York via the Panama and Tehuantepec routes are given in Table XII. They vary from 40 to 60 cents per 100 pounds (\$8 to \$12 per ton) by way of Panama. Via Tehuantepec the rates range from 40 cents per 100 pounds (\$8 per ton) to \$20 per thousand feet of lumber. The railroad rates from the northern coast to New York vary from 75 to 85 cents per 100 pounds on different lumber products and from the California coast from 75 to 80 cents per 100 pounds.

TABLE XII.—*Eastbound transcontinental water rates on lumber.*

Kind of lumber.	Panama Line.		American-Hawaiian Line.
	From Portland, Astoria, Oreg.: Grays Harbor and Puget Sound ports, San Francisco, and East San Pedro, Cal., to New York.		From Pacific coast terminals to New York.
	Estimated weight per 1,000 feet b. m.	Rate per 100 pounds.	Rate.
Fir lumber:	<i>Pounds.</i>		
Rough green.....	3,300	\$.45	
Rough dry.....	3,000	.55	
Finishing surfaced.....	2,500	.55	
Flooring.....	2,000	.55	
Spruce or cedar:			
Rough green.....	3,300	.45	
Rough dry.....	3,000	.55	
Finishing surfaced.....	2,000	.55	
Siding.....	700	.55	
Lath:			
Dry..... per 1,000 lath..	500	.50	
Green..... do.....	650	.40	
Shingles:			
Extra A..... (green..	200	.50	
..... (dry.....	140	.60	
Perfection..... (green..	275	.50	
..... (dry.....	200	.60	
Eureka..... (green..	250	.50	
..... (dry.....	180	.60	
Clears..... (green..	220	.50	
..... (dry.....	160	.60	
			40 cents per 100 pounds to \$20 per M feet.

Notes applying to shipments via Panama:

1. Lumber exceeding 35 feet in length or 12 inches in width or less than 1 inch thick will not be accepted for transportation, except that the smaller pieces will be taken when put up in secure bundles.
2. All shipments of lumber, shingles, and lath will be accepted and charges collected on basis of estimated weights shown opposite each item.
3. All small pieces of lumber to be put up in secure bundles.
4. We reserve the privilege of carrying all shipments of green lumber and shingles on deck.

The rates by the water lines on different commodities range from 20 to 60 per cent below the railroad tariffs. Upon some articles the difference is greater, while for others it is less. There is no general relation or fixed differential between the water and rail charges, the water rates upon each commodity being sufficiently below the rail charges to enable the steamship lines to secure the traffic desired.

The rates over the Sunset-Gulf route have since 1909 been the same as the all-rail rates. Southern Pacific traffic agents route freight over the Morgan Line steamers as their connection between the Gulf and New York and, by getting freight through from New York to San Francisco within an average time of 15 days and 5 hours¹ and by absorbing the rail rates to and from interior points, they obtain a large tonnage of freight for their combined rail and water line. When freight is shipped via the Sunset-Gulf route from an interior point such as Pittsburgh, the rate is the same whether the freight moves direct by all-rail from Pittsburgh to the west coast or to New York and is then forwarded via the Sunset-Gulf route. The Southern Pacific absorbs the rail rate to New York.²

There is no fixed or definite relationship between the rates via the Panama and Tehuantepec routes. Originally the rates were practically the same by both routes; then for a time the Panama charges were generally less, especially east bound, the Panama line being the differential or longer route as compared with that via Tehuantepec. At present many rates are the same by the two routes; on numerous commodities the Tehuantepec rates are slightly less, and on some articles the charges are less via the Panama route. In making comparisons, however, it is important to bear in mind the difference in the service rendered by the Panama Line and the American-Hawaiian Line. As hereafter explained, the rates of the latter are to and from coast terminals, while the Panama Line absorbs railroad rates from interior points to the extent of 20 cents per 100 pounds on west-bound shipments and the entire rail rate to certain interior points in California.

In Table X a small number of the east-bound water rates were quoted. The information contained in Table X is supplemented by the detailed list of commodity rates via the Panama route and via the American-Hawaiian Steamship Line, presented in Table XIII A and B.

¹ G. F. Richardson, superintendent of transportation of Southern Pacific, in *U. S. v. Union Pacific et al.*, evidence, Vol. X., p. 4459.

² J. C. Stubbs, traffic director Harriman System, in *U. S. v. Union Pacific et al.*, evidence, Vol. I, p. 295.

TABLE XIII A.—*West-bound water rates via Panama and Tehuantepec routes, New York to Pacific coast terminals.*

[In cents per 100 pounds.]

Commodities.	American-Hawaiian Line.	Panama Line.
Agricultural implements.....	85	88
Bath tubs, iron, porcelain lined.....	100	125
Bats, base ball.....	75	75
Belting, leather or rubber.....	85	84
Bicycles.....	175	180
Binders' boards.....	55	52
Books, blank, including school composition books.....	75	75
Brass and copper heavy goods.....	85	85-90
Calcium chloride.....	45	52
Candles, wax, grease.....	70	70
Canned goods.....	60	65
Chemicals and drugs.....	100	100
Clothespins.....	65	65
Clothes wringers.....	85	85
Copper wire.....	65	50
Dry goods.....	60-200	70-88
Food, animal.....	60	70
Glucose.....	55	52
Glycerine.....	55	52
Hardware.....	60-100	60-100
Horseshoes (per keg).....	55	55
Insulators, glass or porcelain.....	55	60
Iron, band, bar or plates.....	55	55
Iron, sheets.....	65	70-76
Iron, blooms and billets.....	40	45
Lampblack (in barrels).....	125	120
Lawn mowers.....	85	85
Machinery, n. o. s., knocked down.....	100	100
Milk, condensed.....	60	60
Nuts, edible.....	100	125
Nuts, kernels and meats.....	150	125
Oil, lubricating.....	60	60
Paint.....	60	65
Paper bags.....	65	70
Paper, book.....	55	63
Paper, building.....	55	52
Paper tickets, sales, transfer.....	100	120
Paper, writing.....	70	70
Plaster.....	50	52
Preserves.....	75	77
Pumps.....	100	105
Radiators.....	50-100	70
Rubber goods.....	200	180
Safes.....	80	123
Soap.....	50	55
Soda ash.....	40	45
Soda, caustic.....	40	45
Stamped ware.....	85	84
Starch.....	65	70
Stove polish.....	65	65
Tapioca.....	65	65
Tobacco, manufactured, smoking.....	75	63
Toys.....	100-300	110-360
Trunks.....	175	150-200
Varnish.....	60	65
Wax.....	70	105
Whisky.....	60	70
Wire, barbed or plain.....	55	55
Wire rope.....	60	77
Wire cloth.....	65	70
Wine.....	60	70-88

TABLE XIII B.—*East-bound water rates via Panama and Tehuantepec routes, Pacific coast terminals to New York.*

[In cents per 100 pounds.]

Commodities.	Ameri- can. ¹ Hawaiian Line.	Panama Line.
Asphaltum.....	35	35
Barytes.....	40	40
Beans.....	45	45-50
Barley.....	35-42½	40
Beans, vanilla.....	200	100
Books.....	40	40
Beeswax.....	65	65
Canned goods.....	45	45
Fruit, dried.....	45	45-50
Grain and mill stuffs.....	35-42½	35-40
Hides, dry.....	65	60
Hops.....	90	90
Household goods.....	100	100
Junk.....	35-45	35-60
Liquors.....	40	40-100
Lumber and shingles.....	(¹)	45-60
Machinery.....	100	75
Matting.....	70	70
Metals.....	35	35
Nuts, edible.....	50	50
Nuts, kernels.....	60	60
Oils.....	45-50	45-50
Reels.....	55	50
Tea.....	40	40
Wool.....	40-75	40-75

¹ Forty cents per 100 pounds to \$20 per M feet.

As is shown by Table XIII A and B, the coast-to-coast rates via the Panama and Tehuantepec routes, while similar, are not absolutely alike. Some are identical by both routes and others less via Panama, but the greater number are slightly lower via Tehuantepec. In shipments to and from the interior, however, the rates of the Panama lines are lower because of its absorption of part or all of the rail rate. There is no traffic agreement covering the rates by the two routes; but naturally, the rates over the two routes are made with reference to each other and to the rates of the transcontinental railroads. The general level of charges by each of the water routes is so fixed as to enable each of the water lines to obtain sufficient traffic in competition with the other and with the rail lines.

(c) INTERRELATION OF INTERCOASTAL WATER RATES AND TRANSCONTINENTAL RAIL RATES.

The extent to which the transcontinental railroad tariffs are affected by the coast-to-coast water rates has long been a disputed question; but it is indisputable that the rail charges are influenced by water competition. The Interstate Commerce Commission in 1911 reiterated its former findings as follows (City of Spokane et al. v. Northern Pacific Railway, 21 I. C. C. Repts., 416):

This question of fact has been often considered in the past and with but one unvarying result. The circuit court of the United States has twice found, once in a proceeding concerning these very rates to Spokane, that active water competition does exist which controls the coast rates.

The manifests of steamships—

says the commission—

prove more conclusively than any mere statement that almost every article which is the subject of ordinary commerce between the coasts can and does move from New York to San Francisco by water at rates materially lower than those mentioned

by the defendants by rail. We have used San Francisco as the destination port upon the Pacific coast, and in some instances rates from New York to San Francisco are a trifle lower than to the other coast cities; but, generally speaking, the San Francisco rate is maintained at Los Angeles, Portland, Seattle, Tacoma, and other points on the coast. Passing for the time being the extent and effect of this competition at interior points, it must be found as a fact that there is real and active water competition between New York and San Francisco, between the Atlantic and the Pacific coasts, which does limit the rate of transportation which can be charged by rail between those points upon nearly every article which moves by rail.

The fact that the water lines have been at times controlled by the rail carriers, does not alter the conclusion that water competition is a factor influencing the transcontinental rail rates. The traffic by water is now increasing, and the water rates are materially lower than the rail tariffs. Moreover, potential ocean competition influences the charges fixed by the railways. As was stated by Commissioner Prouty in the Spokane decision:

It is said that the amount of the movement by water is so insignificant that it should be disregarded. The amount is not insignificant. If reference be had to the traffic which actually originates upon the Atlantic seaboard a considerable percentage moves by water, but the significant thing is not the amount of the movement, but the ever-present possibility of that movement. As was said by the Supreme Court in the Alabama Midland case, speaking of the effect produced upon rail rates to Montgomery by the Alabama River:

"* * * When the rates to Montgomery were higher a few years ago than now, actual, active water-line competition by the river came in, and the rates were reduced to the level of the lowest practicable paying water rates, and the volume of carriage by the river is now comparatively small; but the controlling power of that water line remains in full force, and must ever remain in force as long as the river remains navigable to its present capacity."

So here the ocean is ever present. The possibility of using it as an avenue of transportation is ever open, and the fact that it will be used, if for any considerable length of time the defendants maintain rates which are so high, or so adjusted as to render it profitable for shippers to resort to that means of transportation, is never doubtful.

The system of blanketing the transcontinental rates from points east of the Missouri River is the result of this water competition, active and potential; and so, too, is the difference between the through rates to and from the Pacific coast terminals as compared with the charges to and from the intermediate points in the West. The rate percentages established in the Reno and Spokane decisions by the Interstate Commerce Commission, to apply upon west-bound transcontinental traffic, express the judgment of the Commission as to the force that may well be allowed water competition in controlling the railroad tariffs.¹

As the evidence just presented clearly indicates, the transcontinental railroad tariffs have been, and now are, influenced by the rates charged by the coast-to-coast water lines; but it is equally true that the rates of the steamship lines operating via Tehuantepec and Panama are to a large extent made with reference to the tariffs of the transcontinental railroads. The competition of the water routes with the rail lines and the recurring rate wars have in the past forced the transcontinental railroads to adopt the system of ratemaking now in force, but during recent years rate wars have been avoided; the transcontinental railroads have not been under pressure to fight against the water lines for traffic; the tonnage moving by rail has been large and has rapidly increased; and the policy of the railroads has been to maintain, and where practicable, to raise the established level of rail tariffs.

¹ See above p. 18; also map 3 above.

Since 1907, when the American-Hawaiian Line began its service via Tehuantepec, there has been a large increase in the water-borne intercoastal tonnage, but there has been no consequent general decline in the charges by the transcontinental railroads. It was stated by the Interstate Commerce Commission, in 1911, in the Reno decision¹ that "Out of 1,535 commodity rates, compared by the carriers, it appears that no change has taken place since December 1, 1906, as to 696 of such commodities, reductions have been effected in 287, advances and reductions as to 132, and advances as to 418. Of the items increased, the rates on 318 commodities were increased from the whole eastern blanket."

The relation that has recently prevailed between the rates of the intercoastal water lines and the transcontinental rail tariffs is indicated by a statement made by the assistant to the vice president of the Southern Pacific in the testimony taken by the Interstate Commerce Commission in the Reno case. The statement, which was an answer to the question whether the water lines controlled the transcontinental rates, was: "I believe the rail lines control the making of of their own rates, and when we say to-day that we do not wish to go any lower, that indicates our disposition in that regard in making the rates." The same official also stated, "I have never seen a tariff of the American-Hawaiian Line, because they have never been published. They are simply based on our rates as the basis of theirs."

The president of the American-Hawaiian Line, in testifying before the Senate Committee on Inter-oceanic Canals, in 1910, spoke as follows:² "We are friendly with them (the railroad traffic managers). We discuss rates. I don't know of any other business in the world where competitors don't get together and talk matters over. We are not tied up; we are not committed. We do as we please, absolutely untrammelled * * *. Our traffic manager doesn't attend the conferences of the railroads, but he goes to Chicago and gets his ear pretty close to the ground. That's his business." In answer to the question "To-day, as I understand it, you frankly admit that you follow more or less what the transcontinental railroads determine?" he said: "Certainly," but expressed the view that the water lines would dominate rates after the canal is open and after they carry the bulk of the strictly transcontinental traffic.³ It is also the opinion of the Interstate Commerce Commission, expressed in the Spokane decision, that "Since the advent of the American-Hawaiian Line there has been, not perhaps a definite agreement between it and the rail lines, but a general understanding that such rates should be maintained by water, as compared with rates by rail, as would give to the vessels a reasonable amount of traffic from the immediate vicinity of New York."

That the intercoastal water lines should now tend to adjust their rates with reference to the established level of railroad tariffs is in accordance with a general economic law. In any business or industry where the major share of the business is handled by one group of concerns the smaller individual competitors normally make their charges with reference to the prices established by the concerns doing

¹ Railroad Commission of Nevada v. Southern Pacific Co. et al., 21 I. C. C. Repts., 354.

² Senate hearings on bill 3428, Feb. 10, 1910, p. 90.

³ Ibid., p. 97.

the larger share of the business. More than four-fifths of the transcontinental traffic westbound and eastbound, until 1911, was handled by rail and less than one-fifth by the water carriers; and it naturally follows that the level of rail rates influences the charges of the carriers by water.

Though the fact may seem paradoxical, it is not to be inferred from the preceding analysis either that the railroad rates are not or are not to be influenced by the charges of the water lines or that there is now or is to be no effective competition among the intercoastal carriers by water. The transcontinental rail and intercoastal water rates are and will be made with reference to each other. There will probably be no fixed percentage or general differential relation between the rail and water charges. Under present conditions the rates via Panama and Tehuantepec are from 20 to 60 per cent below the transcontinental rail tariffs, and the opening of the canal will so reduce the costs of transportation by the water lines and will so increase the number of carriers and the volume of coastwise shipping as to make a still greater difference between the rail and water rates. The future level of rail tariffs must necessarily be established with reference to the rates charged by water.

Moreover, while it is to be expected that the competition among the coast-to-coast steamship lines will be regulated by conferences, formal or informal, of the interested lines, there will none the less be an incentive on the part of each steamship company to increase its tonnage. There will be the regulated competition among the steamship lines that generally exists among rival carriers, and rates will thereby be kept below the maximum charges that the traffic will bear. For a part of the water-borne traffic, the cost of shipping by chartered vessels will regulate the rates charged by the regular steamship lines; but, for most of the traffic shipped by water, the rates will be such as the regulated competition of the steamship lines, or as Government control (if the coast-to-coast water carriers should be made subject to the Interstate Commerce Commission), may establish. The level below which, and with reference to which, the rates charged by the coast-to-coast steamship lines will be fixed, will be the stable tariffs of the transcontinental railroads.

IV. TRANSCONTINENTAL RATES TO AND FROM INTERIOR POINTS: EFFECT OF WATER COMPETITION.

(A) RATES BY RAIL AND WATER TO AND FROM INTERIOR POINTS IN THE EAST AND WEST.

The steamship lines now engaged in the coast-to-coast business obtain a part of their freight from interior points in the Eastern States for shipment to the Pacific coast. The manifests of cargo show that a small tonnage is obtained from places as far west as Chicago and St. Louis, and also state that some of the west-bound freight shipped by water is destined to interior points in the western part of the United States. The great bulk of west-bound freight, however, originates at the eastern terminals of the water lines—at New York and points not far distant therefrom—and is destined to the Pacific-coast terminals and to places not far inland. The evidence secured by the Interstate Commerce Commission in the Spokane and

other cases led the commission to state that "The principal movement by water is from the Atlantic seaboard itself, from New York and from points having water communication with New York, and from interior territory immediately contiguous. There is a considerable movement as far inland as Buffalo and Pittsburgh, and an occasional movement from Detroit, Chicago, and similar points. A movement of starch from Cedar Rapids, Iowa, of considerable proportions was shown, but, generally speaking, up to the present time comparatively little traffic originating west of the Buffalo-Pittsburgh zone has reached the Pacific coast by water."¹ The present east-bound freight of the steamship lines, to a larger degree than is true of their west-bound tonnage, originates and terminates near the seaboard.

The competition of the intercoastal water lines with the railroads has benefited the sections near the Atlantic and Pacific seabords more than the interior section, because for most shipments to and from interior points via a combined rail-and-water route the through rate is the sum of the rail rate to or from the coast and the rate by water from coast to coast. There are also transshipment or rehandling charges.

Table XIV, compiled by the division of tariffs of the Interstate Commerce Commission, contains a tabulation of the rail rates from Philadelphia, Pittsburgh, Cincinnati, Indianapolis, Chicago, St. Louis, Kansas City, St. Paul, and Omaha to New York on the same commodities as are listed in Table IX, in which the transcontinental coast-to-coast rates of the railroads and the water lines are quoted. Though the rail rates are not in direct proportion to distance, the charges between the interior points and the seaboard are greater the farther the inland place of origin or destination is from New York. For points west of the Pittsburgh-Buffalo zone the rail rates to New York soon become so high that most goods move directly to the Pacific coast by rail at rates which are usually the same from all places east of the Missouri River. On some commodities the rail rates to the Pacific are less from the Central West than from the Eastern States.

The addition of the rail rates from the interior to New York to the intercoastal—if always made in fixing through rates—would have prevented interior points beyond Pittsburgh and Buffalo from making as many shipments as have been made via the water lines between the Atlantic and Pacific coasts. Fortunately for the interior eastern shippers, the coastwise steamship lines sometimes absorb all or a part of the rail rates to and from the seaboard on west-bound shipments.

¹ City of Spokane et al. v. Northern Pacific Railway Co. et al., 21 I. C. C. Reps., 420.

TABLE XIV.—Statement showing class and commodity rates to New York, N. Y., from Philadelphia, Pittsburgh, Cincinnati, Indianapolis, Chicago, St. Louis, Kansas City, St. Paul, and Omaha.

[Rates are in cents per 100 pounds, except as noted.]

To New York, N.Y.	From—								
	Philadelphia, Pa.	Pittsburgh, Pa.	Cincinnati, Ohio	Indianapolis, Ind.	Chicago, Ill.	St. Louis, Mo.	Kansas City, Mo.	St. Paul, Minn.	Omaha, Nebr.
CLASSES.									
First.....	22	45	65	69½	75	87½	147½	135	147½
Second.....	18	39	56½	60½	65	76	121	115	121½
Third.....	15	30	43½	46½	50	58½	93½	90	93½
Fourth.....	12	21	30½	32½	35	41	67	60	67
Fifth.....	10½	18	26	28	30	35	57	50	57
Sixth.....	9½	15	21½	23	25	29			
COMMODITIES.									
Harvesters and reapers, k. d.....	c. l. 10½	18	26	28	30	35	57½	50	57½
Plows and harrows, k. d.....	c. l. 15	33	48	51½	55	65	100	95	100
Beer.....	c. l. 15	30	26	28	30	35	52	47	52
	c. l. 15	30	43½	46½	50	58½	93½	90	93½
Boots and shoes.....	c. l. 22	45	65	69½	75	87½	147½	135	147½
	c. l. 9½	15	17½	18½	20	23½	40½	37	40½
Cement (building).....	c. l. 12	21	30½	32½	35	41	67	60	67
Cereal breakfast foods.....	c. l. 10½	18	17½	18½	20	19½	41½	25	41½
	c. l. 12	21	30½	32½	35	41	67	60	67
China ware (value, \$20 per cwt.).....	c. l. 18	39	56½	60½	65	76	92	85	92
	c. l. 18	39	56½	60½	65	76	136	125	136
Cotton underwear.....	c. l. 22	45	65	69½	75	87½	147½	135	147½
	c. l. 10½	18	26	28	30	35	57	50	57
Green coffee.....	c. l. 12	24	34½	37½	40	46½	72	65	72
Roasted coffee.....	c. l. 10½	18	26	28	30	35	57	50	57
	c. l. 12	24	34½	37½	40	46½	72	65	72
Crackers.....	c. l. 12	21	30½	32½	35	41	67	60	67
	c. l. 18	39	56½	60½	65	76	121	115	121
Creamery and cheese factory machinery.....	c. l. 10½	18	26	28	30	35	59½	55	59½
	c. l. 18	39	56½	60½	65	76	121	115	121
Cotton sheets and sheetings (cotton piece goods).....	c. l. 15	33	48	51½	55	65	100	115	100
Stoneware and crockery (in boxes or barrels).....	c. l. 10½	18	26	28	30	35	54½	50	54½
	c. l. 12	24	34½	37½	40	46½	91½	90	91½
Trolley wire (copper).....	c. l. 12	21	30½	32½	35	41	67	60	67
	c. l. 15	30	43½	46½	50	58½	103½	100	103½
Cane-seated chairs (boxed).....	c. l. 18	39	56½	60½	65	76	110	105	110
	c. l. 33	67½	97½	104½	112½	131½	191½	172½	191½
Common window glass.....	c. l. 10½	18	26	28	30	35	57	50	57
	c. l. 12	24	34½	37½	40	46½	72	65	72
Mechanics' tools (boxed).....	c. l. 12	21	30½	32½	35	41	101	95	101
	c. l. 15	30	43½	46½	50	58½	118½	110	118½
Harness and saddlery.....	c. l. 22	45	65	69½	75	87½	147½	135	147½
	c. l. 9	16	26	28	30	35	57	50	57
Girders, bars, and plates, No. 11 or heavier.....	c. l. 12	19	30½	32½	35	41	67	60	67
Steel rails.....	c. l. 190	300	430	460	500	580	755	675	755
	c. l. 12	19	30½	32½	35	41	67	60	67
Iron and steel blooms, billets, and ingots.....	c. l. 180	260	430	460	500	580	882½	813½	882½
	c. l. 12	19	30½	32½	35	41	67	60	67
Plate and sheet (boiler), No. 11 to 16.....	c. l. 10½	16	26	28	30	35	57	50	57
	c. l. 12	19	30½	32½	35	41	67	60	67
Pipe and fittings.....	c. l. 9	16	26	28	30	35	48½	44	48½
	c. l. 12	19	30½	32½	35	41	67	60	67
Whisky (in wood).....	c. l. 12	21	30½	32½	35	41	69	68	69
	c. l. 15	33	48	51½	55	65	110	105	110
Condensed milk.....	c. l. 12	21	30½	32½	35	41	57	55	57
	c. l. 15	30	43½	46½	50	58½	82	75	82
Nails and spikes.....	c. l. 9	16	26	28	30	35	57	44	57
	c. l. 12	19	30½	32½	35	41	67	60	67
Oil-well supplies.....	c. l. 10½	18	26	28	30	35	59½	55	59½
	c. l. 15	30	43½	46½	50	58½	118½	110	118½
Paints (dry) in wood.....	c. l. 10½	18	26	28	30	35	47	47	47
	c. l. 15	30	43½	46½	50	58½	82	75	82
Paints (in oil).....	c. l. 10½	18	26	28	30	35	57	50	57
	c. l. 15	30	43½	46½	50	58½	82	75	82

1 In cents per 2,240 pounds.

* Plate from Philadelphia, 9 cents; from Pittsburgh, c. l., 16 cents; and from Pittsburgh, l. c. l., 19 cents per 100 pounds.

TABLE XIV.—*Statement showing class and commodity rates to New York, N. Y., from Philadelphia, Pittsburgh, Cincinnati, Indianapolis, Chicago, St. Louis, Kansas City, St. Paul, and Omaha—Continued.*

To New York, N. Y.	From—								
	Philadelphia, Pa.	Pittsburgh, Pa.	Cincinnati, Ohio.	Indianapolis, Ind.	Chicago, Ill.	St. Louis, Mo.	Kansas City, Mo.	St. Paul, Minn.	Omaha, Nebr.
COMMODITIES—continued.									
Building paper..... (c. l.)	10½	18	17½	18½	20	23½	34½	30	34½
..... (l. c. l.)	12	24	34½	37½	40	46½	81½	80	81½
Paraffin wax..... (c. l.)	10½	18	24	25½	27½	32	49	47½	51½
Paraffin wax (in wood)..... (l. c. l.)	15	30	43½	46	50	58½	93½	90	93½
Pickles..... (c. l.)	10½	18	26	28	30	35	57	47	57
Pickles (in wood)..... (l. c. l.)	15	30	43½	46½	50	58½	93	75	82
Sewing machines, boxed or crated..... (c. l.)	15	30	43½	46½	50	58½	93½	90	93½
..... (l. c. l.)	22	45	65	69½	75	87½	147½	135	147½
Soap..... (c. l.)	10½	18	26	28	30	35	57	50	57
..... (l. c. l.)	13	24	35	37½	40	47	72	65	72
Stamped ware..... (c. l.)	12	21	30½	32½	35	41	67	60	67
Stamped ware (nested solid)..... (l. c. l.)	15	33	48	51½	55	65	100	90	100
Stoves (cooking and heating)..... (c. l.)	10½	18	26	28	30	35	57	50	57
..... (l. c. l.)	15	30	43½	46½	50	58½	93½	90	93½
Tin plate..... (c. l.)	10½	18	26	28	30	35	57	50	57
..... (l. c. l.)	12	21	30½	32½	35	41	67	60	67
Tin, sheet..... (c. l.)	12	21	30½	32½	35	41	63	55	63
..... (l. c. l.)	15	30	43½	46½	50	58½	82	75	82
Tobacco, unmanufactured, in hogs- (c. l.)	12	21	30½	32½	35	41	67	60	67
heads, barrels, or cases..... (l. c. l.)	12	21	30½	32½	35	41	62	55	62
Malt extract..... (c. l.)	12	21	30½	32½	35	41	62	55	62
Malt extract (in wood)..... (l. c. l.)	18	39	56½	60½	65	76	136	125	136

Tariff authority.—Class rates: Philadelphia to New York, P. R. R., G. O., I. C. C. 553; Pittsburgh to New York, P. R. R., G. O., I. C. C. 3107; Chicago and Cincinnati to New York, C. C. C. & St. L. Ry., I. C. C. 5893; St. Louis to New York, Cameron's I. C. C. D-62; Indianapolis to New York, C. C. C. & St. L., I. C. C. 5893; Kansas City and Omaha to New York, C. C. C. & St. L., I. C. C. 5893; Cameron's I. C. C. D-62, and Hosmer's I. C. C. A-243; and St. Paul to New York, Hosmer's I. C. C. A-244 and C. C. C. & St. L., I. C. C. 5893.

Commodity rates: To New York from Philadelphia, P. R. R., G. O., I. C. C. 553, 3794 and G-2994; from Pittsburgh, P. R. R., G. O., I. C. C. 3107 and G. O. 1277; from Cincinnati, Indianapolis, and Chicago, Big 4, I. C. C. 5893 and 5891; from St. Louis, Cameron's D-62; from Kansas City and Omaha, Hosmer's A-243, Cameron's D-62, and Big 4, 5893; from St. Paul, Big 4, 5893 and Hosmer's A-244.

NOTE.—Rates from St. Louis and points east of Mississippi River governed by official classification; rates from Kansas City, St. Paul, and Omaha made on Mississippi River and Chicago combinations; proportions west of Chicago and Mississippi River governed by western classification.

The Panama Railroad Steamship Line, which makes the west-bound rates applying over its line and Pacific coast connections, deals as follows with charges from interior eastern points. From its New York pier to Pacific coast points the following "minimum rates" apply:

	Per 100 pounds.
To East San Pedro, Cal.....	\$0.50
To Los Angeles, Cal.....	.55
To Oakland, Cal.....	.50
To Portland, Oreg.....	.52½
To Sacramento, Cal.....	.55
To San Francisco, Cal.....	.50
To Stockton, Cal.....	.55
To all other Pacific coast ports.....	.60

The tariff then provides that, except in case of special rates from New York pier or of rates which do not exceed the above minima, the water rates quoted "may apply from interior points, and when

a rate is at least 20 cents higher than the minimum, the Panama Railroad Co. will assume the charges from shipping point to New York pier not exceeding 20 cents per 100 pounds, any excess over this absorption to be shown on bill of lading as 'advance charges' to be paid by shippers or consignees, as the case may be. When a freight rate is not at least 20 cents higher than the minimum the Panama Railroad Co. will assume the difference between the minimum and said rate." For example, Table XIV shows that the carload rate on harvesters and reapers, knocked down, from Philadelphia to New York is 10½ cents, which is absorbed by the steamship line, because the water rate on harvesters and reapers from New York pier is 88 cents, or more than 20 cents above the theoretical minimum charge of 50 cents on any commodity from New York to San Francisco. So also is the 18-cent rate from Pittsburg absorbed; but the Cincinnati rate of 26 cents is absorbed only to the extent of 20 cents, the shipper or consignee being obliged to pay the excess. The 28-cent Indianapolis rate is absorbed only to the amount of 20 cents, and the same is true of the 30-cent Chicago rate, etc. When the water rate on the commodity in question does not exceed the theoretical minimum water rate by 20 cents, the Panama Railroad Co. absorbs the rail rate only to the extent of the excess of the actual water rate over the minimum water rate, and if the actual rate is only equal to, or is less than, the minimum, the shipper or consignee is obliged to pay the entire rail charge from the inland point to New York.

The policy of the American-Hawaiian Steamship Co. is to "make its rates from the terminals."¹ It does not absorb any of the rail rates to New York; but as the rates of this company are not published it is probable that traffic of large shippers from interior points is solicited at such rates from New York to the Pacific coast as to allow the inland shippers to pay the rail charges to New York and yet enjoy a favorable through rail-and-water rate.

At the Pacific destination of west-bound traffic the Panama Line and connections absorb the rates to certain points not on the coast. The tariffs apply alike to the following points: San Francisco, Sacramento, Stockton, Oakland, Berkeley, Los Angeles, San Diego, Santa Barbara, San Pedro, Redondo, Vancouver, Portland, Astoria, Seattle, Tacoma, Port Townsend, Everett, Anacortes, New Whatcom, and Victoria.

As is shown above, different minima water rates prevail from the Atlantic seaboard to those points on or near the Pacific coast, but upon any particular commodity the same actual rates are quoted from New York to all the above-named Pacific destinations. The actual rate on any given article shipped from an interior point near the Atlantic via New York to any one of the Pacific destinations will depend both upon the amount of rail charge from the interior point to the Atlantic seaboard absorbed by the steamship lines and also upon the minimum water rate from New York to the Pacific destination. The minimum bill of lading for single shipments, likewise, varies from \$2 to \$2.75. The American-Hawaiian Line does not absorb the rail rates from the Pacific coast terminals to any interior destinations.

¹ G. S. Dearborn. Testimony Jan. 24, 1912, in hearings on Panama Canal by House Committee on Interstate and Foreign Commerce

Table XV states the rail rates, on the same list of articles as is included in the former tables of west-bound rates, from San Francisco to Sacramento, Stockton, Fresno, Reno, Salt Lake City, and Denver. Since no interior rates beyond Sacramento and Stockton are absorbed by any line, most of the traffic that reaches the west coast by water does not go far inland, although some freight is carried to points as distant as Reno, Nev.

Table XVI gives the rail rates from Seattle to Spokane and Walla Walla, Wash., and to Butte and Helena, Mont. The east-bound freight moved via combined rail-and-water from and to interior points in the west being relatively light, it has not been thought necessary to present a detailed compilation of rail rates between inland points and other Pacific seaboard terminals.

The Sunset-Gulf Line from New York to the Pacific coast takes traffic from interior eastern points via New York and New Orleans or Galveston at through rates equal to the all-rail rate from the interior eastern points to the Pacific coast. It thus absorbs the rail rate to New York in that the rate is paid out of the through charge. The Sunset-Gulf route, however, is to be classed with the transcontinental rail lines, and not with the intercoastal water lines—because its rates are the same as those by the all-rail carriers.

TABLE XV.—Statement showing class and commodity rates from San Francisco to Sacramento, Stockton, Fresno, Reno, Salt Lake City, and Denver.

[Quoted by Division of Tariffs, I. C. C.]

[Rates in cents per 100 pounds, except as noted.]

From San Francisco—	To—					
	Sacramento, Cal.	Stockton, Cal.	Fresno, Cal.	Reno, Nev.	Salt Lake City, Utah.	Denver, Colo.
CLASSES.						
First.....	24	10	55	97	54	300
Second.....	21	10	51	81	131	280
Third.....	18	9	47	73	115½	200
Fourth.....	16	9	44	59	96	175
Fifth.....	13	7	1 720	50½	79½	160
A.....	13	7	1 670	50½	79½	140
B.....	13	1 120	1 460	41	62	120
C.....	11	1 115	1 405	35	56	95
D.....	9½	1 110	1 350	31	46	85
E.....	9½	1 105	1 295	27	38½	80
COMMODITIES.						
Harvesters and reapers..... (c. l.	13	7	1 670	50½	79½	125
..... (l. c. l.	18	9	47	73	115½	200
Plows and harrows..... (c. l.	13	7	1 670	50½	79½	125
..... (l. c. l.	18	9	47	73	115½	200
Beer..... (c. l.	13	7	1 720	50	55	100
..... (l. c. l.	18	9	47	73	115½	150
Malt extract..... (c. l.	13	7	1 720	50½	79½	100
Malt extract (in barrels)..... (l. c. l.	24	10	55	97	154	150
Boots and shoes..... (c. l.	24	10	55	97	154	275
..... (l. c. l.	11	1 115	1 405	35	56	95
Cement (building)..... (c. l.	16	9	44	59	96	175
..... (l. c. l.	12	7	1 720	50½	44	90
Cereal breakfast foods..... (c. l.	16	9	44	59	96	175
China ware (value, \$20 per hundred weight)..... (c. l.	13	7	1 720	50½	79½	160
..... (l. c. l.	24	10	55	97	154	300
Cotton underwear..... (c. l.	24	10	55	97	154	200
..... (l. c. l.	13	7	1 720	50½	79½	75
Green coffee..... (l. c. l.	16	9	44	59	96	120

1 Per 2,000 pounds.

TABLE XV.—Statement showing class and commodity rates from San Francisco to Sacramento, Stockton, Fresno, Reno, Salt Lake City, and Denver—Continued.

From San Francisco—	To—					
	Sacramento, Cal.	Stockton, Cal.	Fresno, Cal.	Reno, Nev.	Salt Lake City, Utah.	Denver, Colo.
COMMODITIES—continued.						
Roasted coffee.....	c. l. 13	7	1 720	50 ¹	79 ¹	75
.....	l. c. l. 16	9	44	59	96	120
Crackers.....	c. l. 16	9	44	59	96	175
.....	l. c. l. 21	10	51	81	131	260
Creamery and cheese factory machinery.....	c. l. 13	7	1 670	50 ¹	79 ¹	150
.....	l. c. l. 21	10	51	81	131	260
Cotton sheets and sheeting (cotton piece goods).....	c. l. 24	10	55	97	154	110
.....	l. c. l. 24	10	55	97	154	100
Stoneware and crockery.....	c. l. 13	9	1 460	41	62	85
Stoneware, crockery (in hogsheads).....	l. c. l. 16	1 120	44	59	96	150
Trolley wire (copper).....	c. l. 16	9	44	59	96	175
.....	l. c. l. 21	10	51	81	131	260
Cane-seated chairs.....	c. l. 18	9	47	73	70	200
Cane-seated chairs (boxed).....	l. c. l. 24	10	55	97	154	300
Window glass, common.....	c. l. 13	7	1 720	50 ¹	70	125
.....	l. c. l. 16	9	44	59	96	175
Mechanics' tools (boxed).....	c. l. 24	10	55	97	154	300
.....	l. c. l. 24	10	55	97	154	300
Harness and saddlery.....	c. l. 24	10	55	97	154	300
.....	l. c. l. 24	10	55	97	154	300
Steel rails.....	c. l. 13	7	1 720	50 ¹	1,025	160
.....	l. c. l. 16	9	44	59	96	175
Girders, bars, and plates, No. 11 or heavier.....	c. l. 13	7	1 720	50 ¹	62	160
.....	l. c. l. 16	9	44	59	96	175
Iron and steel blooms and billets.....	c. l. 9 ¹	1 110	1 350	31	46	85
.....	l. c. l. 16	9	44	59	96	175
Boiler plate and sheet, Nos. 11 to 16.....	c. l. 13	7	1 720	50 ¹	62	160
.....	l. c. l. 16	9	44	59	96	175
Pipe and fittings.....	c. l. 13	7	1 720	50 ¹	55	160
.....	l. c. l. 16	9	44	59	60	175
Whisky (in wood).....	c. l. 21	10	51	81	100	125
.....	l. c. l. 21	10	51	81	131	260
Condensed milk.....	c. l. 13	7	1 720	50 ¹	75	80
.....	l. c. l. 16	9	44	59	96	175
Nails, spikes, and wire.....	c. l. 13	7	1 720	50 ¹	62	160
.....	l. c. l. 16	9	44	59	96	175
Oil-well supplies.....	c. l. 13	7	1 670	50 ¹	79 ¹	140
Oil-well supplies, n. o. s.....	l. c. l. 24	10	55	97	154	300
Paints (in oil).....	c. l. 13	7	1 720	50 ¹	79 ¹	95
.....	l. c. l. 16	9	44	59	96	130
Building paper.....	c. l. 13	7	1 720	50 ¹	52	60
.....	l. c. l. 18	9	47	73	115 ¹	200
Paraffin wax.....	c. l. 13	7	1 720	50 ¹	60	85
.....	l. c. l. 18	9	47	73	115 ¹	175
Pickles (in wood).....	c. l. 13	7	1 720	50 ¹	77	100
.....	l. c. l. 16	9	44	59	96	150
Sewing machines (boxed or crated).....	c. l. 18	9	47	73	115 ¹	200
.....	l. c. l. 24	10	55	97	154	300
Soap.....	c. l. 13	7	1 720	50 ¹	63	80
.....	l. c. l. 16	9	44	59	96	130
Stamped ware.....	c. l. 16	9	44	59	96	175
Stamped ware (nested solid).....	l. c. l. 18	9	47	73	115 ¹	200
Stoves (cooking and heating).....	c. l. 13	7	1 720	50 ¹	79 ¹	160
.....	l. c. l. 18	9	47	73	115 ¹	200
Tin plates and sheets.....	c. l. 13	7	1 720	50 ¹	79 ¹	160
.....	l. c. l. 16	9	44	59	96	175
Tobacco (unmanufactured).....	c. l. 16	9	44	59	96	175
.....	l. c. l. 16	9	44	59	96	175

¹ Per 2,000 pounds.² In lots of not less than 5,000 pounds, per 100 pounds, \$1.15.³ Per 2,240 pounds.⁴ Applies on pipe, iron, or steel.⁵ Applies on pipe fittings.

Authority.—San Francisco to Sacramento and Stockton per Southern Pacific Co., I. C. C. 2631; to Fresno per Southern Pacific, I. C. C. 2622; to Reno, Nev., Southern Pacific, I. C. C. 3432; to Salt Lake City Gompf's I. C. C. 57; and to Denver T. C. F. B., I. C. C. 626.

TABLE XVI.—Statement showing class and commodity rates from Seattle to Spokane, Walla Walla, Butte, and Helena.

[Quoted by Division of Tariffs, I. C. C.]

[Rates in cents per 100 pounds.]

From Seattle, Wash.—	To Spokane, Wash.		To Walla Walla, Wash.		To Butte, Mont.		To Helena, Mont.	
CLASSES.								
First.....	135		109		180		180	
Second.....	120		91		153		153	
Third.....	95		77		126		126	
Fourth.....	80		65		108		108	
Fifth.....	65		52		90		90	
A.....	65		52		90		90	
B.....	55		46		72		72	
C.....	44		35		54		54	
D.....	36		26		45		45	
E.....	26		20		36		36	
COMMODITIES.	C. I.	L. c. I.	C. I.	L. c. I.	C. I.	L. c. I.	C. I.	L. c. I.
Harvesters and reapers, plows, and harrows.....	65	95	52	77	90	126	90	126
Beer.....	35	95	35	77	75	126	75	126
Malt extract.....	35	135	35	109	90	180	90	180
Boots and shoes.....	135	135	109	109	180	180	180	180
Cement (building).....	20	80	26	65	40	108	40	108
Cereal breakfast foods.....	25	80	25	65	55	108	55	108
China ware, value \$20 per hundred weight.....	65	135	52	109	90	180	90	180
Cotton underwear.....	135	135	109	109	180	180	180	180
Green coffee.....	65	80	52	65	90	108	90	108
Roasted coffee.....	65	80	52	65	90	108	90	108
Crackers.....	80	120	65	91	108	153	108	153
Creamery and cheese factory machinery.....	65	120	52	91	90	153	90	153
Cotton sheets and sheetings.....	135	135	109	109	180	180	180	180
Stoneware and crockery.....	35	80	35	65	72	108	72	108
Trolley wire (copper).....	80	120	65	91	108	153	108	153
Cane-seated chairs (l. c. l., boxed).....	60	135	60	109	115	180	115	180
Common window glass.....	65	80	52	65	90	108	90	108
Mechanics' tools (boxed).....	135	135	109	109	180	180	180	180
Harness and saddlery.....	135	135	109	109	180	180	180	180
Steel rails.....	50	80	50	65	80	108	80	108
Girders, bars, and plates, No. 11 or heavier.....	65	80	52	65	80	108	80	108
Iron and steel blooms and billets.....	36	80	26	65	45	108	45	108
Boiler plate and sheet, Nos. 11 to 16.....	65	80	52	65	80	108	80	108
Pipe and fittings.....	65	80	52	65	90	108	90	108
Whisky.....	120	120	91	91	153	153	153	153
Condensed milk.....	65	80	52	65	105	108	105	108
Nails, spikes, and wire.....	65	80	52	65	90	108	90	108
Oil-well supplies (l. c. l., n. o. s.).....	65	135	52	109	90	180	90	180
Paints.....	40	80	40	65	90	108	90	108
Building paper.....	55	95	55	77	90	126	90	126
Paraffin wax.....	65	95	52	77	90	126	90	126
Pickles (l. c. l., in wood).....	65	80	52	65	90	108	90	108
Sewing machines (boxed or crated).....	95	135	77	109	126	180	126	180
Soap.....	65	80	52	65	90	108	90	108
Stamped ware.....	80	95	65	77	108	126	108	126
Stoves (cooking and heating).....	65	95	52	77	90	126	90	126
Tin plates and sheets.....	65	80	52	65	90	108	90	108
Tobacco (unmanufactured).....	80	80	65	65	108	108	108	108

Authority.—From Seattle to Spokane and Walla Walla per Northern Pacific Ry., I. C. C. 4805; to Butte and Helena per Northern Pacific Ry., I. C. C. 4961.

(B) EFFECT OF WATER COMPETITION ON RATES TO AND FROM INTERIOR POINTS.

Neither the trunk-line nor the transcontinental railways have favored the shipment of commodities from the Middle West to the Atlantic seaboard for carriage thence by water to the Pacific coast. The policy of the railways, generally, under the leadership of the western lines, has been to hold to the all-rail lines the traffic to the Pacific coast both from the Atlantic seaboard and from interior points.

The rivalry of the railways from the Central West to the Atlantic with those from the Central West to the Pacific, and the industrial

competition of the Mississippi Valley with the Eastern States, which can ship to the Pacific coast by water lines, brought about the system of blanket rates for most of the traffic to the west coast from the entire section east of the Missouri. The competition of the rail and water lines at the Atlantic seaboard controlled transcontinental rail rates from the Eastern States, and the railroads and the industries of the Middle West insisted upon reaching the Pacific coast on equal terms with the railroads and industries of the eastern section. Upon some articles the rates from the Central West are lower than from the Atlantic seaboard, there being some grading downward of rates by successive lettered rate groups westward from the Atlantic coast.

The policy of the carriers interested in the transcontinental rail traffic from the East and from the Middle West and the influence upon rail rates exercised by the intercoastal water lines are concisely explained by the Interstate Commerce Commission in the decision in the Spokane case. The commission, speaking through Mr. Prouty, says:¹

Carriers maintain the same transcontinental rate from Chicago as from New York, not by reason of the direct effect, but rather as an indirect result of water competition. The reason for this will be best understood by an actual illustration. Assume that a building requiring the use of a large amount of structural steel is to be erected in San Francisco. That steel is manufactured both at the seaboard and in Chicago. That which is made at the seaboard can be taken by water from the point of origin to the point of destination, and the rate at which it can move is therefore determined by water competition.

The cost of producing steel is the same at both points. In order, therefore, that the producers may stand an equal chance in competing for this business it is necessary that the rate from both points should be the same, and the business can not move from Chicago unless the rate from that point is as low as from the seaboard.

The Atchison, Topeka & Santa Fe Railway begins at Chicago. If this steel is bought at Chicago and moves by that line the entire freight money is retained by it. If, upon the other hand, the steel is bought at New York, moved by some line to Chicago, and there delivered to the Santa Fe, that line receives only a part of the through charge. The service performed by it is the same in either case, but the amount of its compensation is larger when the freight originates at Chicago. It is therefore for the interest of that line to name a rate from Chicago which will originate the business at that point instead of allowing it to originate upon the seaboard. The interest of the line from New York to Chicago is that the business should be taken up at New York, and as a compromise it is finally agreed to apply the same rate from both these points. This clearly shows how water competition, if it does not actually extend to the interior point, may and does dictate the rate from that point.

What would be true of the steel entering into the construction of this building is true also of almost every article of commerce which moves between the East and the West. The Middle West to-day manufactures nearly everything which is produced upon the Atlantic seaboard, and the effect of this policy of the railroads has been to make the Middle West the almost exclusive market of origin for the intermountain country and largely for the Pacific coast itself.

The effect of water shipments upon the interior has, as Commissioner Prouty states, been indirect rather than direct. The tonnage of transcontinental traffic carried from the Mississippi Valley to the Atlantic seaboard for shipment thence by water to the west coast has been relatively small, but the actual or possible shipment of a relatively large volume of commodities by water from the Atlantic coast has controlled the rail rate from the Central West to the Pacific. Water competition has exercised less influence upon east-bound rail rates from the western section to the Middle West and the East; but even on east-bound traffic most rates are blanketed over the entire

¹ 21 I. C. C. Reps., 422.

region east of the Missouri River. There is more grading by distance of east-bound than of west-bound rates; but the difference between the east-bound and west-bound transcontinental rate systems is one of degree, not of kind or of principle.

Such has been the past effect of intercoastal water transportation upon the rates of the transcontinental all-rail lines. There remains for consideration the influence that the Panama Canal may be expected to exercise upon the rates and rate policies of the transcontinental railroads.

V. PROBABLE ADJUSTMENT OF TRANSCONTINENTAL RAIL RATES RESULTING FROM CANAL COMPETITION.

The railroad-rate system that has been worked out by the transcontinental railroads is a complicated structure that has been evolved slowly. It is the resultant of the interaction of numerous forces, of the competition of rival sections, of rival industries, and of rival carriers. As these forces of competition change from time to time the rate system is modified in detail to keep transportation charges adjusted as closely as practicable to economic conditions. The opening of the Panama Canal will so greatly change the industrial relations of different sections of the United States and the competition of the transcontinental railroads and the intercoastal water lines as inevitably to require many changes in the present system of transcontinental rates.

Just what rate policies the railroads will adopt to meet the situation created by the Panama Canal can not be predicted in advance of experience. The railroad companies will solve the problems as they arise, and will cross no bridge until it is reached. It is possible, however, to indicate the rate problems which the canal will probably create and to point out the possible policies open to the railroads. Such an analysis of the probable effect of the canal upon transcontinental railroad rates may, moreover, enable the Panama tolls to be fixed with a clearer understanding of their effects.

1. The railroad rates most completely subject to the competition of the intercoastal lines using the canal will be those west bound to the Pacific coast from the section of the United States between the Buffalo-Pittsburgh district and the Atlantic seaboard. Even under present conditions, the transcontinental rail rates between the two seaboard are largely affected by the competition of the routes via the Isthmuses of Panama and Tehuantepec, and it is estimated that one-half of the traffic carried from this eastern section of the United States to the Pacific coast now moves by the water routes. Is it probable that the railroads will endeavor to meet the rates of the intercoastal water lines with the view to holding to the all-rail routes the traffic between the two seaboard? It is hardly to be expected, for the following reasons, that the railroads will make a desperate effort to hold this traffic against the water lines:

In the first place, the tonnage involved constitutes, at the present time, a comparatively small percentage—only 20 to 22 per cent—of the total traffic carried to the Pacific coast by the transcontinental roads—those running from Chicago to the west coast. Only 35 per cent of the through business of these lines originates in this eastern section and in the Buffalo-Pittsburgh territory. In other words, more

than two-thirds of the through traffic of the transcontinental lines now comes from the Central West.

In the second place, the system of blanketing rates from the Atlantic seaboard westward to the Missouri River—a system that will probably prevail—will carry through to the Missouri River any rate reductions which the railroad lines may make on traffic from coast to coast, and it is hardly to be expected that the railroads will reduce rates unnecessarily upon two-thirds to four-fifths of their traffic in order to compete more successfully for the remaining minor portion of their possible tonnage. It will be more profitable for the transcontinental rail lines to lose the major portion of their traffic from the Atlantic seaboard section in order to maintain paying rates on the west-bound traffic from the middle section of the United States.

In the third place, it is probable that the eastern trunk lines as well as the Pacific lines originating at Chicago and central western points will be opposed to the policy of reducing coast-to-coast all-rail rates to the lowest possible minimum in order to meet the competition of the water lines. It will be to the advantage of the eastern trunk lines to haul traffic from points within 500 miles of the Atlantic to the seaboard for shipment by water rather than to prorate with their western connections low, through all-rail rates from the Atlantic to the Pacific.

2. The transcontinental railroads may be expected to endeavor to hold as much as possible of the traffic from the eastern seaboard States to intermediate points in the Rocky Mountain States. The steamship lines through the canal, with the cooperation of the Pacific coast jobbers, will endeavor to supply the cities within a thousand miles of the Pacific coast with supplies handled by way of the canal and the Pacific gateways. Up to the present time, the railroads interested in transcontinental traffic have adhered to the policy of charging higher rates to intermediate points in the mountain States than to Pacific coast terminals, and have thus assisted in maintaining the Pacific coast cities as the jobbing centers from which many of the supplies required by the mountain States are obtained.

After the canal is opened, the railroads will be obliged to decide whether it is wiser to continue to favor the Pacific coast jobbing trade, or, by reduction of rates from the east to the intermountain cities, to cause those cities to secure their supplies directly from the East and not by way of the Pacific. While it is impossible to predict which of these two policies will be deemed wiser, it would seem *a priori* that the railroads will prefer to supply the intermountain States directly from the eastern sources of supply.

3. The principal eastern termini of the transcontinental railroads are St. Paul, Duluth, Chicago, St. Louis, Kansas City, and Omaha, and these railroads are concerned first of all with the effect which the Panama Canal may have upon the west-bound rates from the central section of the country. The rates to the Pacific coast from Chicago and other points as far east as that city must, after the opening of the Panama Canal, meet the through rates by rail-and-water lines via Atlantic and Gulf ports. It is the expectation of the trunk lines that they will be able to divert to the Atlantic seaports transcontinental traffic originating at points as far west as Cleveland and Indianapolis. It will also probably be possible for the railroads to the Gulf to attract some west-bound transcontinental traffic to

Gulf ports from points as far north as St. Louis. This indicates that the transcontinental lines must reckon with the canal route in making rates from the eastern and southern parts of the Mississippi Valley to the Pacific coast.

4. At the present time the transcontinental railroads have a relatively large and a highly profitable traffic from the Central West to intermediate points in the mountain States. The rates generally being the same from the Middle West as from the Atlantic seaboard to the States in the intermountain section of the far West, the manufacturers and other producers of the Middle West have secured most of the trade of the mountain States. Formerly traffic moved from the Atlantic seaboard around to the Pacific coast and from there inland to the intermountain States. Now it moves mainly by direct rail haul from the Middle West.

With the opening of the Panama Canal an effort will doubtless be made by eastern producers to regain a greater or less portion of the trade of the intermountain States by shipping commodities at low rates through the canal to the Pacific coast for distribution thence through the intermountain States. The Pacific coast jobbers interested in this trade will be able to secure commodities either from eastern producers by way of the canal or from Middle West producers by way of the railroads. It has thus far been deemed profitable by the transcontinental lines to make through rates to the Pacific coast much lower than to intermediate points, and thus favor the jobbing trade of the Pacific coast. This policy has been justified by the fact that the low through rates were at least slightly profitable and that the distribution of traffic by rail from the Pacific coast through the mountains at high local rates was highly profitable. It seems probable that the Panama Canal will cause the through rates to the Pacific coast to be so low as to make it more profitable for the railroads to carry traffic from the Middle West directly to intermediate points than to haul it to the Pacific coast for subsequent distribution. This view has been expressed in the following words by the traffic manager of one of the transcontinental railroads:

The railroads have maintained normal rates to these interior points and have resisted the natural demand for rates insuring direct movement of these commodities from eastern sources of supply, because they knew that they were carrying 85 per cent of the tonnage to Pacific coast terminals, and for that reason their revenue on eastern manufactured goods shipped from Seattle to Walla Walla, Spokane, etc., was not measured by the rate charged for that final movement of the traffic, and so far as the competition of water-borne commodities, including imported merchandise, was concerned, there was consolation in the fact that we were getting a comparatively high rate from Seattle to these interior points.

But we should ask ourselves, what would have been the adjustment of rates to interior points in the absence of these compensating conditions? If the town of Walla Walla uses 10,000 kegs of nails per annum, it is the duty of the railroad traffic manager to make that business contribute as much as possible to the earnings of his railroad. Heretofore we have not worried when we saw these nails coming in from Portland or Seattle, for the reasons above stated, but when we stop carrying the original shipments to Seattle, and when the business from Portland begins to seek the open river route, then we will realize that we must make rates from the East which will insure the direct movement of these commodities to these interior points.

As to the ability of the railroads to do this, I do not see how there can be any question so far as the territory east of the Cascade Mountains is concerned; they may be driven out of the Pacific coast business, but they will stay in the business east of the Cascade Mountains, because they must stay in it so long as it represents any rate over and above the actual cost of the service when considered as additional traffic within the capacity of the railroad, and that is just exactly what it will be.

5. The probable effect of the canal upon east-bound transcontinental rail rates may be briefly considered, because much of the preceding analysis of the relation of the canal to west-bound rates is applicable to east-bound charges. The tonnage carried by rail from the Pacific coast through to the Atlantic section east of Pittsburgh and Buffalo is relatively light and consists in large part of perishable freight, of which green fruits constitute an important item. It is possible that the steamship lines through the canal will handle some of the green fruits from the west coast to the eastern markets, but in all probability the present methods of shipping and marketing fruit will prevail, and the traffic, in spite of somewhat higher rates, will continue to move mainly by rail. The principal markets for all the products of the west coast are in the Rocky Mountain section and the Mississippi Valley, and the transcontinental railroads will be concerned chiefly in maintaining east-bound rates from the west coast to those sections and will hardly decide to reduce rates on traffic destined to points throughout the eastern half of the United States in order to hold against the steamship lines a portion of the comparatively small tonnage which the railroads haul through from the Pacific to the Atlantic seaboard section.

6. The rates on fruits, barley, fish, lumber, and other west-coast products to the mountain States and to the Mississippi Valley are of prime importance to the transcontinental railroads. The traffic taken from the west coast by rail to the southern and eastern portions of the Mississippi Valley must be secured in competition with the combined water and rail routes by way of Panama and the Gulf or Atlantic ports, but for the major share of the east-bound traffic from the Pacific coast over the mountains the railroads will not be seriously affected by canal competition.

7. The traffic from the mines and ranches of the mountain States east bound to the Atlantic coast section comprises a comparatively small tonnage. The rail rates on wool and some other products will, after the opening of the canal, necessarily be influenced by the through rate by rail to the Pacific coast and on by steamship lines through the canal. It is not probable, however, that much traffic will move from points east of the Sierra Nevadas to the Pacific coast for transshipment east bound through the canal.

8. The principal markets for the productions of the Rocky Mountain States are in the Mississippi Valley. It will not be possible for the canal to divert from the railroads the traffic from the western mountain States to destinations west of Buffalo and Pittsburgh, nor will the canal have much effect upon the rates which the railroads may charge for this traffic.

9. The general effect of the canal will be to lower transcontinental railroad rates. If the foregoing analysis proves to be sound, it will be the policy of the railroads to allow a portion of the traffic that might be held to the rails to be shipped coastwise through the canal and to maintain rates upon the traffic which can readily be prevented from taking the canal route. It is probable that the railroads will adopt the general policy of surrendering without serious struggle the minor portion of their traffic in order to maintain profitable charges upon the major share of their tonnage. The immediate effect of the canal will be to lessen railroad profits; the ultimate effect may be the enhancement of the prosperity of the railroads. The canal will

aid the industries and trade of the United States. Like other transportation facilities, it will create the need of other means of transportation; and, should the transcontinental railroads be obliged to face reduced profits for a period of years, they need have no serious apprehension as to their future prosperity. The railroads connecting the Mississippi Valley and the Pacific coast are among the most profitable lines in the United States. The country they serve is certain to have a large development during the next quarter century, a development that will unquestionably be appreciably aided by the Panama Canal.

VI. SUMMARY OF THE PROBABLE EFFECTS OF THE PANAMA CANAL UPON TRANSCONTINENTAL TRAFFIC AND RATES.

The probable influence of the Panama Canal upon the trade of the eastern and of the central sections of the United States with the western part of the country, and the anticipated effects of the canal upon the carriers interested in that trade may be broadly summarized as follows:

1. The Atlantic section of the United States will obtain a somewhat larger share of the trade of the Pacific coast and will secure more benefit from the cheap water route than will the Middle West.

2. The inroads upon the trade now possessed by the middle section of the country will, however, probably not be serious; because (a) the Middle West now has a firmly established hold upon the west-coast trade; (b) the Middle-West producers, aided by their rail carriers to the Pacific coast, will probably be able to compete successfully with eastern producers not located in or near the Atlantic ports. The Middle West will lose a part but not all of the trade of the Pacific coast seaboard cities, but may be expected to hold nearly all of the trade of the cities in the intermountain States; (c) the trunk lines to the Atlantic seaboard will doubtless aid inland producers east and just west of the Alleghenies by making low through rates from places as far west as Cleveland and Indianapolis to the Pacific via the Atlantic ports and the canal. The rail lines to the Gulf likewise will draw trade from Memphis and St. Louis and possibly Kansas City to the Gulf for shipment through the canal to the Pacific coast; (d) the transcontinental rail lines running west from St. Paul, Chicago, St. Louis and the cities on the Missouri River may be expected to assist in building up the direct trade from the Mississippi and Missouri Valleys to the cities in the intermountain States, and thus to limit the entry of goods from the eastern part of the United States via the Pacific coast into the inland markets of the mountain States.

2. The intermountain States will probably secure lower freight rates for their trade with the eastern section of the country and with the Middle West. Instead of cutting deeply into the rates between the eastern part of the United States and the Pacific coast terminals, and thereby, under the ruling of the Interstate Commerce Commission in the Spokane and Reno cases, automatically depressing all rates to intermediate points, the railroads will more probably decide to maintain fairly remunerative through rates to the west coast, to suffer the major share of the coast-to-coast traffic to be supplied by eastern producers and to be carried through the canal, and to make only such reductions in the rates to and from the intermountain territory as may

be required to cause that section to continue to trade mainly with the Middle West. The policy of the railroads will probably be to make it advantageous for the intermountain cities to trade less through Pacific coast jobbers and more, without the intervention of middlemen, directly with the central and eastern sections of the country.

3. The canal will assist the Pacific Coast States in trading with the eastern and southern parts of the United States. Much trade not now possible will develop. The importance of the west-coast cities as jobbing centers may be lessened by the growth of direct trade between the intermountain States and the sections east of the mountains, but this loss will be more than compensated for by the growth of new trade.

4. The effects of the canal upon American trade and upon rail rates will not be much affected by the exemption of coastwise ships from the payment of Panama tolls. If the nonpayment of tolls were to reduce freight rates by the amount of the tolls, the freight rates—which will be from \$6 to \$20 a ton—might possibly be 60 cents a ton lower. That would be of some assistance to the Pacific coast jobbers and large shippers, and would somewhat increase the advantage which the canal will give the East over the Middle West in trading with the west coast.

It is not probable, however, that the exemption of the payment of tolls will appreciably affect the rates charged by the regular steamship lines. The nonpayment or remission of tolls will chiefly aid the owners of the coastwise marine, and not the shippers. Most traffic will be handled by the regular lines, which will charge common rates fixed in conference, and competition, while not eliminated, will be so regulated as to enable the carriers to keep charges well above the lowest rates at which traffic can profitably be carried. Whether there be tolls or no tolls, the line steamship rates will not be based on cost of service, but will be such as the traffic will bear and increase.

Canal tolls, being a part of the cost of service, will not make line steamship rates higher, nor will the omission of tolls cause the freight rates to be lower. This is not true of the rates payable on bulk cargoes of traffic handled in individual vessels operated under charters. Charter rates are competitive, and the few large shippers who can use a chartered vessel will be benefited by being relieved of the payment of canal tolls. As is explained in Chapter XIII, it is probable that the payment of tolls by ships engaged in our coast-to-coast trade would affect neither the rates of the regular steamship lines nor the charges of the transcontinental railroads.



